THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—Liebig.

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Agricultural Dinner at Sir Robert Peel's.

The following are part of the extracts made by the Farmers' Library from a London Agricultural Journal, giving an account of a *farming party* which assembled at Sir Robert Peel's, Drayton Manor, on the 24th of Ninth month last. The readers of the Cabinet may wish they could have been present at the gathering. Among the persons assembled were Earl Talbot, Lord Forester, Lord Hatherton, Sir Francis Lawley, Dr. Buckland, the Dean of Winchester, Dr. Lyon Playfair, &c.—Ed.

Mr. Woodward said, that although unaccustomed to public speaking, and feeling diffidence in addressing an audience consisting of some of the most intelligent and scientific men that England can boast of, he would endeavour to give the meeting the result of his practical experience of twenty years as an agriculturist. In his opinion, thorough draining was the foundation of all good husbandry, *without which manures and skill are thrown away.* Some undrained land had come into his occupation—heavy land, which only produced 10½ bushels of wheat per acre; he immediately drained it three feet deep, subsoiled it, dressed it with burnt clay, and the *first year obtained from it* 51 *bushels.* He regarded the extensive *burning of clay* land as a most important practice. It rendered the soil so much more friable and convertible, and enabled the farmer to work it with much less horse labour. The *effects of burnt clay upon all green crops were wonderful*—a most important fact, which could not be too strongly impressed upon the mind, as being very essential to the growth of corn, especially when consumed upon the land by sheep, eating at the same time a little oil-cake or refuse corn. He had not, however, found advantage in the use of Italian rye-grass, which he thought undeserving the praise it had received. The treading of sheep was highly advantageous to the wheat crop, provided the land was *thoroughly drained and subsoiled.* In order to secure the requisite amount of pressure, he had not only employed sheep but horses, or even men, who he found could tread down land for 1s. 6d. an acre. He had also found advantage, under some circumstances, in the use of an instrument which he called a peg-roller. This was formed of an elm-wood cylinder, studded with oak pegs about four inches apart; it proved to be a most effectual implement when drawn over the land—imitating, as it did, the consolidating power exercised by the feet of a flock of sheep. He regarded pressing down the land as opposing an invincible obstacle to the opera-

tions of grubs and wire-worms. As to dead fallows, he entirely objected to them as wasteful and useless. On his clay land, when in turn for fallow, he planted vetches, and on his gravel, rye, and rye and vetches. For cleaning his stubbles after harvest, he employed the implement called a two-edged "skim," which he strongly recommended as a cheap and most valuable modern invention. Mr. Woodward then pointed out what he regarded as the best manner of breaking up inferior pastures, and converting them into arable; and concluded a very instructive speech, by forcibly pointing out the absolute necessity of *sending back to the land whatever is removed by a crop*, and by expressing his entire agreement in opinion with Mr. Woolwich Whitmore, Mr. Huxtable, and others, that farming *properly and efficiently carried out, with capital and skill*, may be made as profitable an investment as railways or other branches of commerce. Being asked whether he held his land on lease, Mr. Woodward replied that he did. But even if he had not, he, nevertheless, was of opinion that the expense he incurred in the improvement of his land would have answered his purpose, for his improved wheat crop repaid those expenses immediately. Mr. Woodward having expressed a desire that Mr. Mechi would bring under the notice of the meeting the result of his high farming in Essex.

Mr. Mechi responded to the call. His practice in agriculture coincided so nearly with Mr. Woodward's, that it was only necessary to say, that he grew alternately grain and root or leguminous crops, endeavouring as much as possible to grow wheat alternate years. He had originally drained his land two feet eight inches deep, with pipes and stones, at a considerable expense; but since he had had the good fortune to meet with Mr. Parke's, he had amended his errors, and was draining more deeply and effectually with pipes alone, at one-third the cost. He rented some land adjoining his own; although he held but a seven years' lease, he drained it five feet deep with one-inch pipes, at a cost of from 35s. to 50s. per acre [say $8 to $12.] *He could not afford to deprive himself of the benefit of drainage.* He found it very unprofitable to farm such land undrained. *The very first wheat crop remunerated him for the whole cost.* The result of his improvements at Tiptree had been to double the produce of his farm and of his labour. A portion of it was formerly a swamp, not producing 5s. [$1 25] per acre. He had been entreated this year by a gardener in the neighbourhood to let those four acres to him, at an annual rental of £5 [$25] per acre. He had removed three and a half miles of unnecessary banks and fences. Taking the arable acreage of the United Kingdom, he thought they might safely dispense with 500,000 miles of unnecessary fencing, which, with its timber, displaced much food and labour. He considered the agriculture of this country in a very backward and unsatisfactory state, compared with its manufactures. The agricultural mechanical appliances were rude, costly, and unprofitable. The farm buildings generally were bad and uncentrically placed, causing a national loss of some millions—each ton of produce or manure costing an average carriage of 6d. per mile, renders the position of the building an important national consideration. *Wagons were a most unphilosophical contrivance.* It was quite clear that a long, light, low cart, on two wheels, having an area of capacity equal to a wagon, and only costing half as much, was a much more sensible and profitable mode of conveyance. The question was not now an open one, having been thoroughly discussed and decided upon at the London Farmers' Club; therefore the sooner the *wagons were got rid of the better.* With regard to the quantity of seed, his experiments—conducted now for three years, and publicly recorded—had uniformly been in favour of *thin sowing*—say from four to five pecks of wheat, and six to seven pecks of barley and oats. Some of the best farmers in his neighbourhood adopted this system successfully. It was highly important, in a national point of view, that this question should be settled; for, if the quantities he had named were available, adieu at once to the necessity for foreign imports. It appeared to be admitted on all hands that, if a bushel of wheat vegetated, it was an ample seeding; and it was reasonable that it should be so, because if each good kernel produced only one ear containing 48 kernels—and that was not a large one,—there was no allowance for increase by branching or tillering, which we knew would take place to a considerable extent in well-farmed land, containing an abundance of organic matter. Thin sowing delayed the ripening three or four days; consolidation by pressure prevented the developement and action of wire-worm and slug. He had found *salt tended to a similar result.* He salted all his wheat at the rate of four to eight bushels per acre, *and was determined to use much more.* He knew a gentleman in Northamptonshire, whose wheat crops could scarcely ever be kept from going down until he used salt, which had effectually kept it standing. He (Mr. M.) salted the manure in his yards. He found that it sweetened them—he supposed it fixed the ammonia. It was a sin-

gular fact that, while salt tended to preserve animal substances, it on the contrary rapidly decomposed vegetable matter. It was a cheap alkali of native production, costing only about 20s. to 30s. per ton, while all other alkalies were nearly eight times as dear. He strongly recommended the abundant use of bones, with and without acid, for root and green crops. It was evident that the bones formed in our growing animals and in our cows, from the produce of the farm, cost us 5d. [10 cents] per lb., or £45 [$225] per ton. Now if we could replace these, as we can do, by bone-dust, at £7 [$35] per ton, it was clearly good policy to use them. He considered the waste of the liquid portions of the manure in most farm-yards a *great national calamity. It was a great mistake ever to allow water to fall on manure.* Water was a very heavy article. A thousand gallons weighed 10,000 lbs., and was expensive to cart. He had heard farmers say, when rain was falling, that they should then litter their yards and make manure! *Straw and water, in fact.* He found in practice that animals did well on their own excrements and straw under cover—that they consolidated the mass until it was four feet thick, when it would cut out like a good dung-heap, and be fit to carry on the land. But if rain water were allowed to wash this mass, an injurious effect resulted both to the animal and to the manure. *He could not afford* to allow his manure to be well washed in the yards by drainage from the buildings, and afterward to be washed, dried, and mangled by putting it out in heaps and turning over. It was a waste of time and of money. He found that his crops grew better with unwashed manure. *A farm-yard should be like a railway terminus*, covered in, but amply ventilated. There were comfort and profit in keeping everything dry. It did away with the necessity for water carts and tanks—the liquid portions of the excrements being just sufficient to moisten the straw and burnt earth, or other absorbent material. He admired and practiced, to a certain extent, Mr. Huxtable's system of placing animals on boards. It would answer in a compact farm with good roads, and in cold climates, to feed sheep in the yards on roots. In mild climates, and dry, friable soils, it was most advantageous to consume the roots and green crops on the land by folding with sheep. There was no expense of carting off and carting back manure. Farmers had found out that the whole of the excrements were thus applied to the land, whereas in open yards with untroughed buildings, much was washed out and wasted. He hoped to see the time when tenants would consider it to be their interest—as in parts of Scotland—to pay 10s. per acre more rent for properly farmed, permanent and convenient building, and drainage, in lieu of the miserable and misplaced dilapidations of the present time. It was, no doubt, partly this difference that caused the Scotch rents to appear higher than our own. He was a decided subsoiler to the depth of at least two feet. It was a cheap and effective way of getting rid of strong rotted weeds, their crowns being generally just below the ordinary depth of ploughing. He did this in dry weather, and with the assistance of a heavy Crosskill roller and scarifier, made his fallows cheaply, quickly, and efficiently. He drilled his wheat at intervals of about nine inches, so as to hoe them with Garrett's horse-hoe. It cost about 1s. per acre. It was far more expeditious and efficacious than the hand-hoe, and only cost one-fourth the amount. He strongly advocated the abundant use of oil-cake, and also of chalk, on heavy clays deficient in calcareous matter. It had been proved that much more produce had resulted from oil-cake folding than where an equivalent amount was expended in corn. Good high farming was by far the most profitable—the starvation principle was a losing game. If we borrowed from the earth we must repay, or we should soon find an empty exchequer.

Rev. A. Huxtable then rose and spoke to the following effect: I think this by far the most interesting agricultural meeting that I have ever attended, on account of the variety of important views and practices which have been brought under our notice. For my own part, at so late a period of the day, I must content myself with adducing a few facts that have come within my own farming experience, and defending one or two points of my farming practice which have been glanced at by the preceding speakers. As I see so many landed proprietors around me, I must beg permission to impress on them the duty of allowing their tenants to break up, under proper restrictions, the poorer lands now lying in grass. I think that I can show from my own experience that national wealth, the profits of the tenant, and the interests of the labourer, are deeply concerned in converting poor pasture into tillage. Thus, in my own parish, five years ago, there being many labourers out of employ, I obtained the consent of my landlord, Mr. Sturt, to break up the whole of the grass lands of a small dairy farm. It consisted of 95 acres, 10 of which only were then under the plough. When I entered on the occupation, the farm supported 14 dairy cows, and grew 48 bushels of wheat and 40 bushels of beans. Now it annually produces 1600 bushels of wheat, 40

head of cattle, cows, yearlings, and calves, and 100 sheep are fatted, and 80 pigs, and where three and a half labourers were employed, 12 are now sustained all the year round. But the farm, gentlemen, labours under one embarrassment,—such a one as I wish you all felt—such an accumulation of manure that, with the fear of laid wheat crops before my eyes, I know not where to place it. Allow me to detail briefly the steps by which this surely happy result has been brought about. I began at the beginning. I first drained the land; but of draining you have heard to-day so much that I will only say that, though it has been most successful, I yet heartily wish that I had earlier known Mr. Parke's drainage. My fields would have been far more economically and effectually rid of their bottom water. I tried when this was done to improve the herbage of some of the better pastures, but neither liming, nor sheep-folding, nor guano, enabling me to cut more than 15 cwt. of hay per acre; I pared and burnt it all, and cut down, by my kind landlord's leave, all the hedge-row timber, and grubbed up all, save the boundary hedge, and have now a glorious farm. The next object was to provide for the permanent fertility of the soil by keeping a large amount of stock; for I hold that a farm ought to be made self-supporting as far as possible, and the purchase of manures should be regarded as only a temporary expedient, a necessary evil. My first effort to consume the green crops grown on half my farm was very expensive, and therefore unsuccessful; for with regard to the beasts, I was forced to purchase a ruinous amount of straw, and the sheep eating off the swedes on clay land in winter puddled the fields, and were themselves, amid good food, objects most pitiable. But when our principles are good, we must not allow slight difficulties to stop their application. I therefore determined to place my milch and store cattle on boards, as wood is an excellent non-conductor; and after a series of devices, I have succeeded in making them tolerably comfortable, so that I am now no longer dependent on my straw for the quantity of cattle which I keep. I am only limited in the number of animals which I keep by the amount of green food grown. In like manner, but with a variation of arrangement, the sheep were placed on small boards about three and a half inches wide, with an interval of about seven-eighths of an inch between each, to permit the manure to fall freely into properly prepared tanks below. This is by far the most successful provision which I have made. Of 1,000 sheep so placed, I have never had one lame. The pigs in like manner, when fattened, sleep on a boarded stage above their feeding place, and except in very cold weather require no straw for litter. Thus I have dispensed with a large expenditure of straw, which my cereals—half the farm—could not sufficiently provide. But I hear some one exclaim, "What do you make of your straw?" First of all, a good deal is required for bedding the horses, and the young stock which are in loose boxes; and as they never tread the green fields, they require a great quantity of white bedding. Secondly, a great deal is wanted for food, being mixed with the green leaves of the root crop and the mashed turnips. Thirdly, a ton per acre is used in making clover and vetches into imperfectly dried hay, with a due admixture of salt to arrest fermentation. These uses fully take up all the straw which I grow. I think the methods employed in preparing the manure from the "boarded" cattle deserve mention. First the liquid manure flows into large tanks; *below* them is another, which I call the mixing tank, for in it the manure is diluted with water to any degree which the state of the weather may require, the rule being that, in proportion to the increase of temperature must be the increase of dilution; *i. e.* the hotter the weather the weaker should be the manure applied. In order to avoid the expensive and often injurious water-cart, I have laid down over the highest part of my farm a main of green elm pipe, of two inches diameter, bored in the solid wood; at every 100 yards distance is an upright post, bored in the same manner, with a nozzle. A forcing pump fixed at the mixing tank discharges along these pipes, buried two feet in the ground, the fluid with a pressure of 40 feet; of course it rushes up these pierced columns, and will discharge itself with great velocity through the nozzle; to this I attach first of all 40 yards of hose, and therewith water all the grass which it can reach. To the end of this hose another 40 yards of hose are attached, and a still larger portion of the surface is irrigated, and so on for as many 40 yards as are required. When enough has been irrigated at the first upright, the nozzle is plugged, and the fluid is discharged at the next 100 yards distanced column, and so on. For this application of the hose I am entirely indebted to that most able man, Mr. Edwin Chadwick; the green elm pipe is my own contrivance. The cost of the prepared canvas hose, which was obtained from Mr. Holland, of Manchester, was 1s. a yard—the wooden pipes cost me only 1s. and being under ground they will be most enduring. By an outlay of £30 I can thus irrigate 40 acres of land; and see how inexpensive,

compared with the use of the warter-cart and horse, the application. A lad of fifteen works the forcing-pump; the attaching the hose and its management require a man and a boy. With these, then, equivalent to two men, I can easily water two acres a day, at the rate of 40 hogsheads per acre of the best manure in the world: I say *best*, because all chemists will assure you that the liquid contains the principal nitrogenous and soluble salts, and therefore is far more valuable than the dung, and it is plain enough to every man, though he be no chemist, that plants can only take up the manure in a liquid form. The principal use which I make of the hose is to water the clover, and, above all, the noble, but this day much decried, Italian rye-grass. How hard Mr. Woodward was upon its soft sweet herbage! Yet his own excellent principle, that you must carry back to the land an equivalent for what is taken away, may be successfully alleged in defence of this most productive and nutritious of all grasses. It is certainly true, that if you cut and carry away Italian rye-grass, and do not also carry back the manure made in eating it, you will not be able to grow wheat after it. But from my own observation, I know that if after each cutting the hose immediately follows, you may cut it without wrong to the land as often as you like, and an amount of fodder will be obtained which no other plant can approach. It comes the earliest, and grows the longest of all the grasses; and I feel confident that, with such appliances as I have mentioned, you may secure fifty tons per annum of this milk-giving, fat-producing, muscle making grass. I can refer to Mr. Dickinson, of Curzon street, as an authority for growing at least this weight of green food, and I believe far more. That you can cut it, by the help of liquid manure, six times a year, admits of no doubt. With regard to the manure made by sheep, as previously described, you will readily perceive its value, if you reflect that when you give a flock in their house 20 tons of Swedes and their tops, you have minus only the increase of their bone and wool made during the three months of their happy confinement, all the inorganic and most of the organic ingredients of the crop being under the boards; in fact you may say that on the boards you have a fatted flock, and below the boards yet 20 tons of Swedes and their tops. I think that a good deal of misapprehension prevails respecting this mode of shed-feeding sheep, for you hear frequent comparison made on the superior system of feeding off crops in the fields. I have no doubt that in the summer months, even fattening sheep will "do well" out of doors, and at the same time fertilize and consolidate the land; but I speak of feeding off winter crops by sheep which you wish to fat: and here I cannot think that the two systems admit of comparison, so superior are the results of the house and board system. But the conditions under which an animal is to be reared are quite different from those which you would observe in laying on fat. In the one case, exercise is absolutely necessary; in the other case, the quieter and more still the creature is kept the better. Briefly, then, my own practice, which science surely justifies, is this: the greater proportion, about two-thirds of my best roots are carted to the sheds, and given to the animals preparing for the butcher; whereas the tops and the smaller turnips are fed off by my breeding flock on the land, assisted by oil-cake and corn when necessary, and thus the land is rendered firm, and the ewes are kept in healthful exercise. Lastly, I must advert to the treatment of the dung made by the cattle and pigs. That on the boards is hourly swept down, and wheeled away to a long covered shed; contiguous to this is another shed containing a large store of burnt earth and other ashes. The dung is worked up with the ashes, and therewith are mixed the other manures, dissolved bones, soot, powdered chalk, &c. This, about eight or ten cart-loads per acre, is carted to the field ready for turnip sowing. The manure is drilled in by one of those that deliver moist manure, and thus eight acres can be got over in a day drilled on the flat. If the field is very poor the drill goes over four acres in the morning without seed; in the afternoon the same quantity is again deposited in the same ruts, and the seed upon this double discharge. The advantage of this is, that the dung is never exposed to the drying of the sun or air; that the seed being deposited over a moist bed, germinates immediately in the driest season, and cares not for the fly, though for the prevalent grub it is certainly no remedy. The pig manure I consider the best of all; because one-half of the corn I feed them on is in the shape of beans, which contains the best mineral ingredient for growing Swedes, as I have endeavoured to set forth in my "Lecture on Manures." These, gentlemen, then, are the principal points of the practice which have brought me into that pleasing embarrassment of which I spoke before, and which I wish may befall you all—more manure than you can safely put on your arable land.

ACCORDING to the reports of our friends from various neighbourhoods in this vicinity, the promise of a wheat crop is a fair one.

An English Vendue.

IT may be entertaining to many of our readers, to know what is sold on an English farm on the breaking up of the establishment. As a sample, a friend has cut from a late paper the following, which will give us a favorable idea of stock, implements, &c.—ED.

Messrs. Morris & Son have received instructions from the Executors of the late Mr. Huntley, to sell by auction, without the slightest reserve, on the premises, at Lansannor Farm, situate about two miles distant from the town of Cowbridge, on Thursday and Friday, the 20th and 21st of January, 1848,

The whole of the undermentioned Stock, &c.: comprising 19 very excellent milch cows, either with calves at their sides or expected to calve in good season; one fat cow, two four-year-old in-calf heifers, three three-year-old ditto, four two-year-old ditto, six five-year-old oxen, in prime condition; four ditto ditto, four two-year-old steers, a remarkably handsome two-year-old Hereford bull, 259 very prime Southdown ewes, in lamb; 30 Leicester ditto, ditto; 55 Southdown wethers, 223 ewe and wether lambs, four rams and two yearling ditto. The sheep, which have been selected with the greatest care from the very best stocks, are perfectly sound and in good condition. Nine valuable draught horses, of great power and good constitution; a six-year-old black gelding, of great beauty, and tractable in harness; a bay hackney, 15 hands high; two two-year-old colts, by "Railway," out of well-bred mares; an active five-year-old pony, quiet to ride or drive, and excellent in its paces; five sows in farrow, a sow and litter of pigs, and one boar pig; two ricks of very prime barley, which will produce good malting samples; two ricks of wheat, one ditto seed clover, and two ditto of barley straw; a large quantity of very excellent and well harvested hay, about 10 tons of mangold wurzel, the crop of 15 acres of swedish turnips, five well constructed wagons, four broad-wheel carts, one narrow-wheel ditto; a four horse-power threshing machine, by Cambridge, of Market Lavington; an easy running cobourg, gig and harness, scarifier, iron roller, oak ditto, six iron ploughs, thee pair harrows, two pair of drags, turnip drill, winnowing machine, chaff cutter, 10 cattle cribs, sheep-washing apparatus, sheep cratches, corn screen, winnowing fan and stock, ox yokes and chains, several dozen hurdles, 30 sets of fore, shaft, and plough harness; six dozen sacks, two wheelbarrows, an assortment of smith's tools, ladders, hay-knives, pikes, rakes, &c.; a general and useful variety of substantial household furniture, in excellent preservation, barrel churn, cheese stand, double and single cheese presses, milk pails, leads, and tubs, cheese vats, butter trendles, &c.; eight hogsheads of very prime cider; cider press and mill, several various sized casks, and other valuable articles too numerous to particularise.

Sale of Crops in Scotland.

ABOVE is given a specimen of the Stock, Implements, &c. sold at an English Vendue—below is given from the Mark Lane Express an account of a sale of crops at Ayr. When shall our mode of farming be such as to give an average of $55, for wheat, and $50 for potatoes?—ED.

The sales of crop this year in our neighbourhood, have been well attended, and brought excellent prices. At Macnairston, wheat averaged £11 per Scotch acre, turnips £16; and at Friarland, beans from £10 to £12 15s. At Thornbrock, parish of Maybole, middling oats brought from £6 to £9; at Broadshean, £5 to £7; at West Enoch, £6 to £8; and, at Mackailston, potatoes brought upward of £40. Hay, in general, has also sold well, especially meadow, which is sought after for winter fodder. The above quotations are from a few of the last of the numerous sales conducted by Mr. Mitchell, auctioneer, Maybole, this year.

Horticulture.

THERE is probably no employment or recreation which has a stronger tendency to purify the heart, improve the taste, or strengthen the physical constitution, than a love of horticulture. If a man would truly enjoy his garden, take delight in his flowers, and appreciate his fruits, he must be his own gardener, prune his own trees, gravel his own walks, and cultivate his soil. It is related by Cicero, that when Lysander visited Cyrus of Persia, a prince equally distinguished for his empire and his genius, Cyrus showed him a piece of ground *well enclosed and completely planted.* After the visiter had admired the tall and straight trees, and the rows regularly formed, and the ground clear of weeds and well cultivated, and the sweetness of the odors which exhaled from the flowers, he could not help expressing his admiration, not only of the diligence, but of the skill of him by whom all this was measured and marked out; upon which Cyrus answered, "It was myself who *measured* everything, the *rows* of trees are of my disposing, the plan is mine, and many of the trees were planted with my own hand."

A truly kingly recreation and a noble example.—*Boston Journal.*

Potatoe Murrain.

By the above name was distinguished a moist gangrene which attacked very generally the potatoe crop of England, late in the summer of the year 1845. July and August were unusually wet and cold, and early in August there were sharp morning frosts. Immediately after, the stems began to decay; but the weather continuing wet, instead of their decay being dry, and attended with the usual phenomena of their reduction to mere woody fibre, the putrefaction was moist, and the smell attendant upon it precisely that evolved during the decay of dead potatoe haulm partly under water. The stem decayed whilst the fibres connecting the tubers with them were fresh and juicy—the putrefaction spread along these, the ichor being absorbed by their still energetic vessels, and passing into the still immature and unusually juicy tubers, imparted to them the gangrene; the infection first being apparent at the end nearest the connecting fibre, spreading gradually throughout the liber of the tuber, rendering it brown like a decayed apple, and lastly causing the decay of its interior portion. Previously to the final decay, the increased specific gravity of the potatoe was remarkable, amounting to one-third more than that of a healthy tuber—an increase caused by its greater amount of water. When boiled it became black; but when submitted to a dry heat of about two hundred degrees it rapidly lost moisture, and the progress of the ulceration was retarded, if not entirely stopped.

There can be no preventive for such a disease as this—and the only chance of saving the tubers is to mow off all the haulms close to the ground the moment infection is apparent in them. This might prevent the circulation of the ichor to the tubers. These should be taken up forthwith and clamped as recommended by Dr. Lindley, with a layer of earth or sand alternating with each layer of potatoes.

The disease seems to be the natural result of an excessive degree of wet and cold, at that period of closing growth when all bulbs and tubers require an increased degree of dryness and warmth. If the hyacinth, or tulip, or dahlia are submitted to similar unpropitious contingencies, their bulbs or tubers similarly decay.

It is not a new disease, for to a less extent it has been frequently noticed before. The best preservative of the tubers in such ungenial seasons is to take them up, to dry them perfectly, and then store them in a dry shed in dry coal ashes.

Much has been written on this subject, and the newspapers here and in Europe have been filled with speculations as to its duration, &c. The failure to a considerable extent of the crop of the present year, (1846,) would indicate that the disease is not of such temporary character as had been hoped and predicted. If it continue, all the old varieties must necessarily be abandoned, and reliance placed on new ones, raised from the seed proper; therefore, as a matter of precaution, we would recommend attention to that object. They are readily produced by carefully sowing the seed, and replanting the young tubers in successive seasons, until they attain full size. There is reason to hope such would be free from disease, or at any rate less liable to it, than the older varieties.—*Landreth's Dictionary of Gardening.*

From the Horticulturist.

Are the Old Pears Extinct?

I furnish, for the Horticulturist, a few facts, relative to the condition of the White Doyenne or Virgalieu pear, in western New York. Having been familiar with this pear for more than twenty-five years, and with its uniform excellence, health and productiveness, I had never taken the trouble to remember any particular facts upon the subject; supposing that, however worthless it might prove in some localities, its vigour and fruitfulness in most places would never be questioned. I have, therefore, been compelled to apply to some of my friends for additional facts of a tangible nature, to demonstrate what I had before taken for granted.

So far as my own experience extends, I may state that, during many years past, this pear has generally been regarded as *incomparably the best*, for all qualities taken together, throughout central and western New York. During my business of raising trees for dissemination, I have had more inquiries for this variety than for all others put together. Many of the most enterprising cultivators are planting large orchards, when they can obtain them from the nurseries, which are inadequate to supply the increasing demands. The old bearing trees with which I have been familiar, have regularly produced several bushels annually, and I have never seen a single specimen that did not possess the fine rich flavor, and delicious melting qualities, so conspicuous in this excellent variety.

A few particular instances, taken very much at random, may serve to exhibit definitely the productiveness of the tree. P. Barry, of Rochester, informs me, on the authority of H. N. Langworthy, that a tree, measuring about eight inches in diameter,

produced annually *five* to *seven* bushels of fruit, which sold for $2.50 to $3 per bushel. He also states that H. Colby, near that city, has a tree upwards of twenty years old, which produces annually (not under the most favorable circumstances,) two to three barrels of fruit, which he usually sells for about $8 per barrel.

Oliver Phelps, of Canandaigua, states that a tree upon his grounds, which was budded twenty years ago, has for the last six or eight years borne from *four* to *seven* bushels of uniformly fair and good sized fruit. Chas. Seymour, of the same village, informs that he has four bearing trees, one of them forty years old, the others twenty-five and fifteen years old; and that, although he is not in the practice of *measuring* the crop, "they are uniformly heavily loaded with fruit, and seldom fail to be large and perfectly fair." Ralph Chapin, also of that village, has a tree, at least twenty-five years old, in good bearing condition, which, for the last eight years, has borne from *three* to *seven* bushels annually. A tree, belonging to one of my near neighbors, usually produces several bushels yearly; the heaviest crop it has borne being *eleven bushels.* I have given these instances just as they came to hand, without selecting the most remarkable merely; and I could easily increase the number ten fold. Of some of the finest trees which I noticed the past season, I have had no opportunity of ascertaining the products. In most instances, the trees have grown in soil of medium fertility, and with little or no cultivation. It is scarcely necessary to add, that the highly respectable individuals who have kindly furnished me statements, are most of them thoroughly conversant with our finest varieties, and that there cannot be any doubt that the trees they possess are the veritable White Doyenne, almost universally known in western New York as the "Virgalieu." Nearly all agree in the opinion, that it is remarkably free from attacks of the blight.

The lowest price I have heard of, is $1.50 per bushel upon the tree. Ten dollars per barrel in New York city, has been common for some years past. Judge Phelps writes, in addition to the facts already quoted,—"I have been credibly informed by persons dealing in them, that they have sold in Albany and New York from $10 to $12 per barrel, of two and a half bushels. I saw them sold in October, 1843, in Fulton market, New York, by the peck, at the rate of $6 per bushel." P. Barry also states,—"The peddlers of our city collect them from every part of the country within fifty or sixty miles, ripen them gradually in their houses, and sell them during October and November at two to six cents each." A. Thorp, of Syracuse, informs me that at that place, where this pear flourishes admirably, the usual price is $3 per bushel.

In answer to an inquiry, David Thomas, of Aurora, Cayuga county, writes,—"My trees of this variety are among the most hardy and productive. Edwin B. Morgan told me yesterday that his had done finely, while all his other pear trees had been injured by blight. Several gentlemen with whom I conversed, laughed scornfully at the idea, that any one should think the Virgalieu was not one of the very best, most productive, and most hardy varieties; it was so very ridiculous! From three trees, at C. C. Young's, (at Aurora,) $39 were obtained from their fruit in the autumn of 1846.

J. J. Thomas."

Macedon, 2d mo. 12th, 1848.

We may add to the foregoing evidences of the productiveness and value of this finest of old pears, the following: We know very well a large fruit grower and fruit dealer in western New York, who sent to the New York market in the past two seasons, nearly *two thousand dollars* worth of this variety of fruit,—so beautiful and fair as to command the very highest price.

Instances of the great productiveness of the *Doyenné* are quite common in this state. We received very fine specimens of this pear last autumn, from J. C. Hastings, Esq., of Clinton, N. Y., with the following statement:—"This fruit was raised by my father, Dr. Seth Hastings, of this place. I give you the following account of the tree which grew it. He sold five and a half barrels from the tree this season, and had from one and a half bushels to three pecks that fell from the tree, and were bruised, rendering them unfit to pick and send off. The five and a half barrels were sold for $9 per barrel at home; and, with what fell from the tree, *he estimated the whole produce of the tree at over* $50. You can depend on this statement as correct in every particular; and I think it would be difficult to find many pear trees more productive."

With this kind of evidence, (and the same is true of the *Brown Beurre* and other old pears,) that, as Mr. Thomas says truly, may be multiplied in western New York ten fold, we think it can no longer be said, with any show of correctness, that these fruits are "run out;" that they are in their decadence; that they are unworthy of cultivation.

What, then, is the explanation of the absolute failure of such fine old pears as the Doyenné?—for we grant it is an absolute failure, in many of the long settled parts of

the country, and more especially in high sandy soils. What is the secret of the great productiveness, great beauty, and high flavor of this pear in some districts of the country—as in western New York?—*Editor of Horticulturist.*

PRODUCTIVENESS OF STRAWBERRIES.—In all the long discussions about barren and fertile strawberries, the actual amount which each variety will yield per acre, which is of great importance, appears to be entirely forgotten. To one who raises for market, it is quite essential to raise such a variety as will yield a surplus of a 100 per cent. above the cost of raising, rather than one that will yield no such surplus at all; and the home cultivator wishes to get as much for his labor and land as practicable. Only a few statements of the amount per acre have been made. Hovey's Seedling, it is said, has yielded 2000 qts, or more than 62 bushels per acre. The Old Hudson (of Cincinnati) which is probably the most productive of all strawberries as yet cultivated, has produced, according to Nicholas Longworth, at the rate of 5,000 qts. or 156 bushes per acre. Burr's Late Prolific, a new variety lately originated at Columbus, Ohio, it is stated, yielded 35 qts. on a bed six feet by 20, which is about 240 bush. per acre; it doubtless received the best possible culture. It would be very interesting, and of great value, to know the comparative productiveness of the different varieties of the strawberry, raised side by side, and treated precisely alike. Such experiments would greatly facilitate the selection of the best sorts, for each different part of the country.—*Neal's Gazette.*

Letter of R. L. Allen.

THE banks of the Ohio exhibit the same bold and attractive scenery which characterizes those of the Monongahela. There is, however, this difference. The elevated rocky heights, which seem almost to overhang the latter, frequently affording scarcely a by-path along the shore, recede from the margin of the former, leaving a wide alluvial bed on either side, beyond which the hills rear their gracefully rounded or precipitous crests, still almost everywhere covered by the original forests. These, with the herbage on the plains below, had been stricken by the autumnal frosts; and in the absence of the cheerful hue of the evergreens which line the more northern streams, gave a somewhat sombre aspect to the scenery. When clad in a luxuriant foliage of summer, I can imagine few views of the same extent, that afford more interest and beauty. For nearly 800 miles, through the perpetual windings of the Ohio, scarcely a single view can be found that would not make an attractive picture.

If shorn of its forests, more densely populated, and thoroughly cultivated, with numerous vineyards up its steep hill sides, with here and there an old castle occupying its almost inaccessible heights, the banks of the Ohio would resemble those of the Rhine. The castles and their feudal oppressors, I trust we may never see; but the cultivation of the vine is destined to be much more extensive here than it ever was or ever can be on the banks of Germany's famed river. Many vineyards are now planted on the Ohio, and the soil and climate are found suited to the production of the grape. Its success is now placed beyond a doubt. The perseverance and skill already enlisted in its cultivation, will eventually enable the vine growers of Ohio to supply the Union with its wine and winter grapes. I have full confidence in the future application of chemical principles to the preservation of this delicious fruit. This will furnish us a bountiful supply for months after its harvest, as a substitute for the insipid foreign grape which now graces the desert, rather as luxury to the eye than to the palate. I have seen many specimens of wine from the native vines, which, though generally differing in character from most of the imported, are rich in flavor, and yield the luscious odor and taste peculiar to that of the well-ripened foreign grape. When connected railroads shall have crossed the Alleghanies, and brought this fertile valley into close proximity, with the seaboard—which they will soon do—the markets of the Atlantic cities will be as fully and as regularly supplied with luscious grapes, as they now are with the fresh milk and cream carried to them from a hundred miles in the interior.

We reached Cincinnati in one of the well-conducted packet boats which run between this place and Pittsburg, in about forty hours. Here all was activity and bustle. Success had followed the last year's efforts of the merchant, the manufacturer, the artisan, and the farmer. Famine abroad, and war at home, had created a demand for the products and energies of all, and crowned each with prosperity. The consequences were evident in the lengthening streets, the new and massive buildings, and the more than Herculean excavations of the surrounding hills, which everywhere met the eye. The site occupied by this city is a segment of successive table lands (originally requiring but little grading), of which the river forms the arc, and a cordon of high precipitous hills, the chord. The table lands are already nearly covered

with buildings, and those gigantic hills have recently been attacked with a vigor that indicates their speedy demolition. There is a spirit characterizing many sections of our country, that amuses while it challenges our admiration. Fifty years ago, the ground now occupied by Cincinnati was a wilderness. Five years ago, Mount Adams, then remote from the city, was solemnly dedicated to science, and set apart as a permanent retreat for the astronomers of the western hemisphere. A beautiful observatory crowns its summit and brings the star gazers nearer the object of their research. I climbed its lofty heights, and judge of my surprise to find a recent excavation of fifty feet, directly in front of this consecrated spot. The foundations are already crumbling beneath the blows of the sappers, and these are temporarily sustained only by massive buttresses of mason work. Streets are laid out, and shops and shanties encircle it. What was recently a worthless and almost inaccessible hill, yields a harvest of lots worth $40 per front foot! The *dollar* has encountered science, and it needs no prophet to foretel the issue of the contest; and like the Indians and Mexicans, she must yield, and seek a temporary retreat beyond the immediate convenience of her antagonist.

What a vision is opened from the summit of this hill! What profusion of nature and art! A population of 100,000* lie at your feet, in the possession of wealth, luxury, and intelligence, far beyond the average enjoyed by civilized nations. They are surrounded by wealthy farmers, mechanics, merchants, and professional men, whose homes reach beyond the great northern lakes, beyond the Mississippi, and to the very shores of the Mexican gulf. And this whole region, but half a century since, was an almost unbroken wilderness. From the comparatively ancient Fort Le Boeuf, boats may descend through French Creek, from 1,000 miles above. They can wheel on and ascend the Tennessee, 1,000 miles, through the midst of three magnificent states; or they may coast along the borders of two others, 1,000 miles more by the Wabash. They may pass round into the Mississippi, and penetrate nearly to its source, 2,000 miles more; or turn into the Illinois or Wisconsan, and reach nearly the same distance. Returning, they may ascend the Missouri, till the snow-clad heights of the Rocky Mountains meet their view; and farther down the Arkansas, the Red River, the Washita, the Yazoo, and the innumerable bayous below, afford an almost interminable line of water communication. And through all these extended avenues, the resources of the country, in its soil and minerals, its elements of wealth, and capacity for ministering to the comfort and prosperity of its inhabitants, are unsurpassed.

Art asks you to observe her achievements. She points out her thousands of buildings, all well furnished with the objects for which they were designed; her numerous steamboats moored at her wharves; her miles of manufactories stretched along the shore and climbing the hills in her rear. There is the Whitewater Canal, leading into Indiana; here the Miami, reaching to Toledo on the northern lakes. On the opposite side, the railroad extending to Sandusky, and at a lower point on the same waters, it is soon destined to connect with Columbus and Cleveland; while another will ere long reach the tide waters of the Atlantic. Fine McAdam roads radiate to every important point in the interior; and over all, from east, north, south, and west, flashes the electric telegraph, with intelligence from every quarter of the globe. Such are the advantages, and such the achievements of American freemen, for a single half century.

Although heretofore, and probably destined for a long time to remain, an important element in the prosperity of Cincinnati, there is one feature which detracts much from the interest that would otherwise attach to it. It is the Porkopolis, not only of America, but of the world. No other place on its surface, ever witnessed the annual slaughter of so many of the "swinish multitude," as is here compressed within the limits of a few weeks. It is estimated that nearly 400,000 will yield up their greasy lives at this place the present year. It is the height of the packing season, and the streets are filled with their unwieldly forms, wending their weary steps to their last home. The air is redolent of their grunts and odors; and the tables groan beneath their spare ribs, their joints, their hams, their head cheese, souse, sausages, and sides. Every wagon you meet is loaded with them, piled up like ricks of hay; and every warehouse is crammed with these precious freights. I have seen piles of coffee and cotton, before at New Orleans and elsewhere; but the piles of dressed swine here far exceed (relatively) anything of the kind I have ever witnessed.

I called on our friend, and the friend of agriculture, Mr. Neff, who has recently turned his attention to beef packing. This is now second only to that of pork in importance. The introduction of the best breeds, and especially the Short Horns, has largely

* This is about the population of Cincinnati and its suburbs; and the thriving villages of Newport and Covington on the opposite side of the river.

increased the value of cattle for packing. Although not fed to the extent I think they should be for the best interests of the farmer and the packer, they are highly improved from what they were but a few years since. In this career, no one has been more conspicuous than Mr. N., or has pursued the subject with more constancy, intelligence, and liberality. He has a farm in Illinois of 6,000 acres, where he annually fats from 1,000 to 2,000 head, which are brought to Cincinnati for packing. He considers $400 to $500 well expended in a good bull, whose services he is willing to bestow gratuitously for the purpose of getting the progeny, when ready for market. These, he thinks as ripe at three, as the common cattle of the country are at five or six years old. A handsome fortune has attended his efforts. It is to be hoped that others engaged in the rearing of stock, will follow, with equal perseverance and success, so laudable an example.—*American Agriculturist.*

Cincinnati, Nov. 24th, 1847.

Irrigation.

IRRIGATION, as employed by the farmer, is chiefly beneficial in proportion to the amount of saline and decomposing matter contained in solution by the water employed. But this is not the exclusive cause of benefit, for much of this arises from the increased and permanent supply of moisture to the roots of the plants. These can only derive food from the soil in a gaseous or liquid form; and the decomposing matters in a soil decompose, and constantly are converted into gaseous and soluble matters, with a rapidity proportioned to the abundance of water supplied to them. Experience shows that there is in the kitchen garden scarcely a crop that is not benefited by a much more abundant supply of water than can be obtained usually; and I can bear testimony to the correctness of Mr. Knight's conclusion, not limiting, however, my approval of such abundant watering to late crops of peas, but to all, as well as beans, spinach, and the entire cabbage tribe. Kidney beans and potatoes are not benefited by such an abundance of water.

"The quantity of water," says Mr. Knight, "which may be given with advantage to plants of almost every kind, during warm and bright weather, is, I believe, very much greater than any gardener who has not seen the result will be inclined to suppose possible; and it is greater than I myself could have believed upon any other evidence than that of actual experience.

"My garden, in common with many others, is supplied with water by springs, which rise in a more elevated situation; and this circumstance afforded me the means of making a small pond, from which I can cause the water to flow out over every part of every other kind through every part of the summer; and I cause a stream to flow down the rows of celery, and along the rows of brocoli and other plants, which are planted out in summer, with very great advantage. But the most extensive and beneficial use which I make of the power to irrigate my garden by the means above mentioned, is in supplying my late crops of peas abundantly with water, by which the ill effects of mildew are almost wholly prevented, and my table is most abundantly supplied with very excellent peas through the month of October."—*Dictionary of Gardening.*

For the Farmers' Cabinet.

Spirits of Turpentine, a cure for Poison.

IF any person should be stung by a bee or other insect, rub some spirits of turpentine on the place, the pain will nearly cease in one minute. It is said that the pain arising from the bite of a copper-head may be arrested in a few minutes, by the continued application of this article, and from my own knowledge of its effects in other cases, I have not the least doubt of it. The effect of all poison is to contract the blood vessels and prevent a free circulation; the natural consequence is pain and inflammation immediately. Spirits of turpentine, by their penetrating and expanding qualities, soon overcome the difficulty.

Can some one tell how to make Soap?—If the Editor, or any of his correspondents, would furnish a rule by which every housekeeper might make soap the *first trial*, they would confer a favour that would long be remembered by many. M. T. J.

Short Creek, Harrison Co., Ohio.

Hints to Lovers of Flowers.

A MOST beautiful and easily attained show of evergreen may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches are taken from healthy and luxuriant trees, just before the winter sets in, cut as for slips, and immersed in soap and water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all winter. By placing a number of bottles thus filled in flower baskets, with moss to conceal the bottles, a show of evergreens is easily insured for a whole season. They require no fresh water.—*Court Journal.*

Fencing.

An ordinary sized farm, of one hundred acres, divided into ten acre fields, as many have them, would take two hundred and seventy-five pannels to enclose ten acres; this at eighty cents per pannel, (and many calculate it one dollar,) would cost the sum of two hundred and nineteen dollars, and the yearly interest at six per cent. would be thirteen dollars and fourteen cents on ten acres—the sum of one dollar and thirty cents per acre, or the enormous sum of two thousand one hundred and ninety dollars (the interest of which would be one hundred and thirty-one dollars and forty cents) on the farm. The fence, it is believed, would decay entirely in thirty years, which would be a total loss of capital to the country, amounting to two thousand one hundred and ninety dollars; besides, it must be repaired once during the above period with new posts, at a cost of posts and labour to the amount of six hundred and eighty-seven dollars and fifty cents; which would make twenty-eight hundred and seventy-seven dollars and fifty cents, or an annual loss, for thirty years, of ninety-five dollars and seventeen cents.

I once heard Nicholas Biddle say, the cost of fencing alone in the State of Pennsylvania would pay the State debt—which is about forty millions. Need any State or community be long in debt, when it is in the power of the farmers alone to liquidate it? You will ask, how is the farmer to pay? he is already taxed to the limit of his means. I will inform you—revive an old law that has lain a dead letter on your statute book for a century. Our forefathers in that respect were wiser than their children of this generation—they foresaw the expense and difficulty of fencing, or brought the knowledge of it with them from Europe. They thought it unnecessary to fence the highways, and for line fence they made provision by enactments. But we might go one step farther, and do without line fences, and inside as well as fences on the highways. In England they make out with much less fence than in this country. On the Continent there is very little fence. There are in New England large agricultural districts without any fence. In China, where agriculture is understood better perhaps than in any other country, there are no fences. In Peru, before the conquest, the cultivation of the land was an object of the highest consideration—few nations understood it better—but there were no fences. What a beautiful landscape our country would present, were it not for the immense amount of old rotten rails and posts, which now meet the view. We should see the country thick set with beautiful cottages, with green lawns between each one's portion, and the land teeming with a population of health and happiness. Our sons and daughters would not for a long time have to seek homes in the far west. The resources of our land are not more than half developed, and under this change the population could be doubled in our most populous districts. The agricultural products can be vastly increased on our most productive lands. Instead of keeping a race of animals to make fences for, which will not pay a tithe of the interest the fence costs, we should have none but such as we really need, and they should be kept in barns and enclosures to suit the owner. Besides, if we continue this system of fencing, I want to know by what means we are to be furnished with the material? Our timber is already exhausted; we have not enough in the country to reset the fences, and it is fast disappearing from other parts. We must resort to hedges, ditches, iron or stone fences. These have all been proposed, are all expensive, and all have their objections. Then why not do without them? By the time the fences must be reset, turn your stock into such animals as are worth their keep; improve your land, and manure with concentrated manures, and my word for it, your profits will be greater than they ever have been. This, together with the use of lime, will insure success.—*Salem (N. J.) National Standard.*

Plank Roads.

The Racine papers contain a report on the subject of Plank Roads, made by Philo White, Esq., chairman of a committee appointed at a meeting of the citizens of that town, to investigate the subject. The report is more complete than any thing we have before seen relating to the matter.

Our neighbours above are fully awake to the importance of the matter, and are determined to secure for themselves passable roads. There are several towns in our own State which would be vastly helped by such roads in and about them. We have hitherto not seen mention made of plank roads in and about Alton, Springfield, Jacksonville, Quincy, Peoria, and other Illinois towns, and perhaps the price of lumber at present would render their construction expensive; but we expect to see and hear these places in motion about it within two or three years.

"*Macadam* roads have been in use for more than a third of a century, while the adoption of *plank* roads, in the United States at least, dates back scarcely half a dozen years; and yet the latter seem in a fair way

almost to supersede the use of the former. Macadam roads are made of hard stone, broken up with hammers into pieces about an inch in diameter, and this 'metal' is spread on the bed of the road to the depth of six or ten inches. At first these roads are heavy to travel on, exceedingly annoying to tender footed animals, and laborious for a team to haul a loaded vehicle over; but in time the broken stone becomes partially pulverized, and forms a mass of comparative smoothness and solidity. Yet this solidity is not permanent; J. W. Brooks, Esq., Civil Engineer, writes us from Detroit, that 'a Macadam road, built with a sufficient quantity of stones [say *ten* inches in depth of the 'metal,'] to be durable, will be expensive in *any* locality; and built otherwise, it will be destroyed at the breaking up of the ground in the spring, or so injured as to require extensive repairs.'

In Canada, public roads, &c., are under the control of a 'Board of Public Works,' and from the report made by commissioners appointed to examine the state of the roads, we learn that a computation, based upon actual expenditures for construction and repairs, shows that more than three miles of plank road can be made and maintained, for one of stone (Macadamized).

On the line of roads running eastwardly out of the city of Toronto, a Macadam road was first made, under the impression that the immense travel over it would wear away a plank road so rapidly as to render its frequent removal very expensive. But the result of the experiment was, that within a very few years a plank road was laid down alongside of the Macadam, and the latter used as a turn-out path! And the report to the New York Senate on the subject of plank roads, declares that 'experience has proven, that a plank road over the same line with a Macadam one, can be built and maintained for less than the interest on the cost of the latter, added to its yearly required repairs.'

Hon. George Geddes, member of the New York Senate, and who superintended in part the Salina plank road, in speaking of the comparative value of Macadam and plank roads, considers the plank vastly superior to the stone structure; he says: 'I have seen a Macadam road taken up, eight feet in width, to make room for plank track;' and that men who have travelled over the best roads in England say, 'there is not in Great Britain as good a road as the Salina plank road.'

It seems that all experience goes to show, that a horse will travel in any kind of wheeled vehicle at an average of one fifth faster on a plank than a Macadam road, and draw at least one fifth more freight with the same ease.

An intelligent correspondent of the Detroit Free Press says: 'A plank road near Toronto, parts of which are entirely worn through, and whose sides touch a Macadam road, is now in use, and is constantly occupied by vehicles, with and without loads, in preference to the stone (or Macadam) road. On this road, the very beasts of burden instinctively prefer the plank to the Macadam path; and when reined from the former to the latter, if left to themselves, will immediately run back upon the plank.'

But the following facts, related by Henry Lædyard, Esq., of Detroit, go far to show that plank roads are preferable to Macadam *under all circumstances*. At a town in New York a plank road is about to be constructed, where, for a reach of thirteen miles, the line of road runs along a ledge of exposed *rock, proper for Macadamizing*, which only needs to be tumbled into the road-way,' ready for use! Here, *if anywhere*, it might be supposed a Macadam road could be profitably made. In another town of the same State, 'movements are making to take up the cobble stone pavement of a street, for a distance of two miles, and lay down a plank road in its stead.'

It has already been remarked, that plank roads are peculiarly adapted to low, flat, or wet regions; and in such localities, practical business men can construct them without the expense of employing an engineer. But their adaptation to a rolling and even hilly country, has been fully and favorably tested. As their smooth and even surface opposes no resistance to the wheel of a road vehicle, the draught on them up an inclination is much easier than on an ordinary road, demonstrating their ability to overcome considerable elevations; the exposure of the horses to slipping on such ascents, being almost entirely obviated by a slight covering of earth or sand upon the planks. On the alternate plank and Macadam road at Toronto, the plank portion of the road follows the same inequalities of surface of the ground, that existed before the Macadam road was superseded by it; and the writer in the Detroit Free Press says it rises and descends hills of much sharper grade than the foot of Woodward Avenue in the city of Detroit. Thomas G. Alvord, Esq., member of the Legislature, and superintendent of the Salina road, writes us, 'We pass over rises in our road (short, it is true,) of one foot in ten;' and further, 'that it is far easier to go over the same elevation on a plank road than on a common dirt road.'

Lord Sydenham having become impressed with the great utility of plank roads during his residence in Russia, (which country we

believe led the way in their adoption,) introduced them into Canada on his accession to the Governor Generalship of those provinces; and it is now about nine years since the first plank road was constructed there under the supervision of the Government; although a short experimental road was tried at Toronto two years previously, and a short piece of rude structure of the kind was laid at Quebec some thirty years ago. So perfectly satisfied have the Canadians now become of the immense advantages resulting to their farming and commercial interests from the introduction of plank roads, that they have gone more extensively into these splendid road improvements, than any kingdom or republic on the globe. These Canadian plank roads are principally located in the London district, Canada West. There is one from Port Stanley to London, 26 miles; 2d, from Hamilton to Port Dover, 36 miles; 3d, London to Brantford, 57½ miles; 4th, London to Chatham, 67½ miles; 5th, Chatham to Sandwich, 60 miles; 6th, Chatham to Amherstburg, 18 miles; 7th, London to Port Sarnia, 62 miles; one in progress from London to Port Goderich, 75 miles; two or three radiating from Toronto, one or more at Montreal and Chambly, one at Quebec, and several others of less note in other parts of the provinces. Of the precise number of these roads in Canada, we are not advised; but we learn that their aggregate length is between 400 and 500 miles.

We learn from Mr. Alvord, that the Salina road has divided 12½ per cent. profits the last year, with a reserve of surplus profits of over $3000. The Salina was the first plank road finished in the United States. Of the Rome and Oswego road, 56 miles are finished and in use. Besides these there are some twenty other plank roads in the State of New York, of the aggregate length of 336 miles, the stock of which is taken and they are to be built in the spring. And there are half a dozen others projected there, and will probably be made, of some 144 miles in length. In Ohio there is a plank road in progress from Milan south, 45 miles.

A gentleman (quoted in Ellsworth's Patent Office Report) says that on the Toronto plank roads, after seven years' use, 'the top surface of the plank was found to be worn in the centre for the breadth of seven feet only, and to the depth of $\frac{1}{8}$ of an inch;' the rest of the surface, say four feet, (the entire track being twelve feet,) was almost as untouched as when the planks came from the saw; of course one third of this planking was useless, and one third the expenditure on account of it a dead loss! It has become a settled principle, that travel on all roads will concentrate within a narrow range—say within a width of seven or eight feet near the centre of a plank road; it follows then, that all over three feet for a single track is, for all practical purposes, labor and material thrown away."—*Prairie Farmer.*

From the Southern Cultivator.

Loss of Pork in Making Bacon—Fattening Hogs.

Mr. Editor:—Persons, at times, are desirous of knowing how much bacon a given amount of pork will make. I have often asked the question, but could get no satisfactory answer. This winter I ascertained the facts for myself, and now send them to you, for the information of others.

I killed six hogs, well fattened, ranging from ten to eighteen months old, weighing 877 pounds. They were truly *Georgia hogs*, raised upon pine roots and *broom sedge* grass. I found the sides were 24 per cent. of the whole amount of the hog; shoulders, 22 per cent.; hams, 21½ per cent.; ribs and backbones, 11½ per cent.; heads, 9 per cent.; lard (leaf), 9, and lard (gut), 4 per cent.; loss in weighing, 4 per cent.

The quantity of lard will be increased, from the fat taken from the backbone, and the trimmings from the hams, shoulders and middlings. The entire spare-rib was taken out—and from the various parts the sausage meat was taken, after they had been weighed.

So that the rate per cent. of each part, would be diminished according to the extent of trimming. And though the exact proportion is not given, yet the facts I have stated are sufficiently accurate for general purposes. The quantity of lard will always be increased, and the trimmings for sausage meat are taken from those portions of the hog never consumed in the family, after it has been turned into bacon.

It is said by Solon Robinson, that meat loses ten per cent. in smoking. The facts I have furnished show that the hams, sides and shoulders of a hog are two-thirds of his whole net weight.

An experiment made by me with my hogs, satisfied me that boiled food was far cheaper to fatten upon than raw food. I took two hogs of the same litter, equally thrifty, and put them in separate pens. I fed one on raw corn, the other on boiled meal. Both had as much as they could eat. The one fed on boiled meal, well cooked, and made into a mush, was somewhat the fattest, but it did not consume one-fourth as much corn as the other. It commenced fattening earlier, and eat up clean all that was given it, while

the other, after becoming fat, would crack out the kernel or heart, and throw away the balance of the grain. I pretend not to give the reason for this; that I leave to you, but I know the practical fact well enough to determine me hereafter always to grind my corn, and boil the meal with which to fatten my hogs. M.

Eatonton, Ga., January, 1848.

The Locust.

The common locust naturally abounds in the country west of the Alleghanies, as far as Arkansas. It is also plentiful in the Canadas, but is not found indigenous in the United States east of the river Delaware, nor does it grow spontaneously in the maritime parts of the middle and southern States, within the distance of fifty to one hundred miles from the sea. It is planted, however, for purposes of utility and ornament, from Maine to Georgia. It was observed by Michaux, that "the locust forms a much smaller portion of the American forests than the oaks and walnuts, and that it is nowhere found occupying tracts, even of a few acres exclusively." Hence the tree, where it is met with, is often spared by settlers, as being ornamental, and comparatively rare, and old specimens, which formerly belonged to the aboriginal forests, are frequently seen growing in the midst of cultivated fields.

Of all American trees that have been cultivated in Europe, there is no one, of which so much has been said and done, as the locust. It was among the first plants that were carried to that country, and it has been more extensively propagated than any other, both in Britain and in France, where it has been alternately extolled and neglected; and even at the present day, though the beauty of its foliage and flowers is universally admired, and the valuable properties of its wood have enthusiastically been praised and acknowledged, it is not considered as holding a high rank as a timber-tree, or as being generally planted with a view to profit.

In Dr. Hunter's edition of Evelyn's "Sylva," published in 1786, we have a history of the employment of the locust in ship-building, communicated by Mr. Joseph Harrison. This gentleman, who had resided some time in Virginia, states that in "about the year 1733, the first experiment was made respecting the application of the locust tree to any purpose in ship-building, by an ingenious shipwright, sent over to America by some Liverpool merchants, to build two ships there. The shipwright thought that the oaks, elms, ashes, and many other timber-trees common to both countries, were much inferior to the same sorts in England; but frequently spoke of the locust-tree as being of extraordinary qualities, both in strength and duration. He had observed some very old timber in houses in New England, that had been built of the wood of this tree, when the country was first settled, perfectly firm and sound; and, after having completed his engagement for his employers, he began to build a small vessel for himself; when, being at a loss for a sufficient quantity of iron, and having observed the extraordinary strength and firmness of the locust tree, he took it into his head that trenails, or tree-nails, that is, wooden pins, of that timber, might be substituted for iron bolts in many places where they would be least liable to wrench or twist, (as in fastening the floor timbers to the keel, and the knees to the ends of the beams, which two articles take up a large proportion of the iron used in a ship,) purposing, when he arrived in England, to bore out the locust trenails, and drive in iron bolts in their stead. The ship, being finished and loaded, sailed for Liverpool, and returned back to Virginia the next year; the builder himself being the captain of her, paid particular attention to see the effect of the locust trenails. After the strictest examination, he found that they effectually answered the purpose intended. It was, however, thought prudent to take several of them out, and to put in iron bolts in their room; and this operation afforded another proof of their extraordinary strength and firmness, as they required to be driven out with what is technically called, a set bolt, (an iron punch,) just as if they had been made of iron; whereas oak trenails are usually bored out with an auger." The use of the locust for trenails was neglected for some years, till it was revived at the instance of Mr. Harrison, by a ship-builder of eminence, at New York, where, as in other parts of the United States, as well as in Great Britain, it has been in general use ever since.

In the year 1823, an extraordinary excitement was produced in England concerning this tree, by William Cobbett, who resided in America from 1817 to 1819, and chiefly occupied himself in farming and gardening, on Long Island, near New York; and during that period, as he tells us in his "Woodlands," published in 1825 to 1828, that he was convinced that nothing in the timber way could be of so great a benefit as the general cultivation of this tree. "Thus thinking," continues he, "I brought home a parcel of the seeds with me in 1819, but I had no means of sowing it till 1823. I then began sowing it, but upon a very small scale. I sold the plants; and since that time I have

sold altogether more than a million of them!" Elsewhere, in the same work, he more especially directed attention to this subject, urging, in his clear and forcible manner, the immense importance of this tree in shipbuilding; and he was the means of thousands of it being planted in various parts of Britain. The name of *locust*, as applied to this tree, before Cobbett's time, was but little known in England, and many persons, in consequence, thought it was a new tree. Cobbett had a large kitchen-garden behind his house at Kensington, which he converted into a nursery; and he also grew trees extensively on his farm at Barnes, in Surry. Although hundreds of the Robinia pseudacacia stood unasked for in the British nurseries, the "locust plants," which every one believed could only be had genuine from Mr. Cobbett, could not be grown by him in sufficient quantities to supply the demand. He imported the seeds in tons; but when he fell short of the real American ones, he procured others, as well as young plants, from the London nurseries, and passed them off as his own raising or importation. Had the people of England known that locust seeds and locust plants were so easily to be obtained, it is probable that the locust mania would never have attained the height it did. To show the folly or the knavery of this extraordinary individual, we quote the following from Loudon's "Arboretum Britannicum," which should be preserved more as a literary curiosity rather than a historical record. "It is worthy of notice," says Loudon, "that Cobbett, apparently without ever having seen a hop-pole made of locust, boldly affirms that the tree is admirably adapted for that purpose; that trees from his nursery, after being four years planted on Lord Radnor's estate, at Coleshill, were 'fit for hop-poles, that will last in that capacity for twenty or thirty years at least;' that 'such poles are worth a shilling each' (that is, nearly double what was at that time the price of good ash hop-poles); that 'five acres would thus, in five years, produce £529;' and that 'each stump, left after the pole was cut down, would send up two or three poles for the next crop, which, being cut down in their turn, at the end of another five years, would, of course, produce two or three times the above sum!' that locust wood is 'absolutely indestructible by the powers of earth, air, and water;' and that 'no man in America will pretend to say that he ever saw a bit of it in a decayed state.' After this, it will not be wondered at, that Cobbett should call the locust 'the tree of trees,' and that he should eulogize it in the following passage, which is so characteristic of the man, and so well exemplifies the kind of quackery in which he dealt, that we quote it entire:—'The time will come,' he observes, 'and it will not be very distant, when the locust tree will be more common in England than the oak; when a man would be thought mad if he used anything but locust in the making of sills, posts, gates, joists, feet for rick-stands, stocks and axletrees for wheels, hop-poles, pales, or for anything where there is liability to rot. This time will not be distant, seeing that the locust grows so fast. The next race of children but one, that is to say, those who will be born sixty years hence, will think that the locust trees have always been the most numerous trees in England; and some curious writer of a century or two hence, will tell his readers that, wonderful as it may seem, 'the locust was introduced to a knowledge of it by William Cobbett.' 'What he will say of me besides, I do not know; but I know that he will say this of me. I enter upon this account, therefore, knowing that I am writing for centuries and centuries to come.' The absurdity of the above passage renders it almost unworthy of comment; but we may remark that, even supposing all that Cobbett says in it of the application of the locust were true, the uses which he has enumerated do not amount to a hundredth part of those to which timber is applied in this country. Hence, were his predictions to be verified, and were the locust to become more prevalent than the oak, we should find its wood a miserable substitute, in the construction of ships and houses, for that of our ordinary timber trees. Every experienced planter or timber owner, both in Europe and America, has felt this; and this is the true reason why the tree never has been, and never will be, extensively planted."

The largest tree of this species recorded in England, is at Syon, near London, which in 1836 had attained the height of eighty-one feet, with a trunk three feet four inches in diameter at one foot above the ground, and an ambitus, or spread of branches, of fifty-seven feet.

In Scotland, at Airthrey Castle, in Stirlingshire, there is a locust tree, which attained the height of sixty-two feet in forty-three years after planting, with a trunk of two feet in diameter, and an ambitus of thirty feet. It grows in light loam or gravel, and in a sheltered situation.

In Ireland, at Shelton Abbey, in Wicklow, there is a locust which attained the height of sixty-five feet in fifty years after planting, with a trunk twenty-five inches in diameter.

In America the locust has been planted for ornament in great abundance about farm-houses, and along fences and avenues, for

more than fifty years; and since the forests were in a measure destroyed by the axe or fire, by the European settlers along the seaboard and navigable waters inland, many persons in the middle and eastern States have cultivated this tree with a view to profit, and have not only supplied timber and trenails to the shipwrights of the cities or commercial towns, but have exported large quantities to England and elsewhere. These plantations seldom exceed an area of thirty acres, notwithstanding the agricultural societies of several States have offered premiums for their encouragement. Though the Robinia had never been known to be injured by any insect, towards the end of the last century, in Massachusetts, it was generally attacked by the larvæ of the Cossus robiniæ, which gradually extended their ravages to the southernmost points where this tree has been propagated. In consequence of this discouragement, the locust has been but little cultivated for the last twenty years in any part of the United States or in Canada, except for the purposes of ornament or shade. In a communication from Mr. Stephen H. Smith, of Smithfield, in Rhode Island, dated on the 22d of November, 1844, he states that in the winter of 1817, he cut from a lot a heavy growth of timber, principally chesnut. The soil on which it grew is a rich loam, or a slightly tenacious subsoil. In the following spring he set out, in the same ground, at equal distance, about one hundred good-sized yellow locust trees to the acre. They kept pace with the natural growth of the forest that sprang up about them. In 1837, twenty years after, all the wood was again cut off the same lot, producing twenty cords to the acre, the locusts measuring at the stump from nine to twelve inches in diameter, each tree making three posts, seven feet long. The sprouts and offsets now occupy one half the ground, to the exclusion of a portion of the native timber. The borers have not assailed these trees at any time. It may be reasonable to conclude that the thick underwood has protected them from this enemy; as those standing near, in open, cultivated ground, of like quality, have not escaped.

The soil in which the locust appears to grow best is a light and somewhat sandy loam, rich rather than poor; and to attain any considerable size, it requires much room, and an airy, but at the same time a sheltered situation, free from the fury of the winds. It has the quality of thriving for a time on poor, shallow soils, which no doubt is owing to its power of rapidly abstracting whatever nourishment such soils may contain, by its large, succulent roots, that run near the surface; but after a few years it becomes stunted and unhealthy, decays at the heart, and never attains a size sufficient for any useful purpose, except for fuel. The only trees that will prosper on such soils and ultimately become timber, are the resiniferous, needle-leaved kinds, as the pine, the fir, the cedar, and the larch. When cultivated for ornament, this tree generally looks best planted separately on a lawn, or in small groups in a shrubbery, or along the confines of avenues and plantations, where it is allowed to extend "its branches freely on every side, and to assume its own peculiar shape, feathering," as Gilpin says, "to the ground."—*Brown's Trees of America.*

From the American Agriculturist.

American Agriculture.

VALUE OF HEN MANURE.—The complaint of the fly on turnips and bugs on cucumbers and other similar vines, is one of yearly and sometimes of long occurrence. The mischief done by these little pests is very provoking, and frequently results in losses of labour and good crops, which are very discouraging to cultivators. I have lately been informed by an intelligent and skilful cultivator, that the following preparation affords an ample and complete remedy. Take hen manure one part, reduce it as well as you can to powder; then with an equal part of plaster of Paris, incorporate well together, and sprinkle the mixture over the vines or sow it over the drills of your turnips.

Hen manure is free from the seeds of foul weeds, and in consequence of the great abundance of ammonia it contains, it possesses a great effect in pushing plants forward. Hence for tomatoes, peppers and similar plants, in our northern climate, it possesses high value. It is well worth being saved with care by farmers and gardeners for every purpose of cultivation. Care should be used, however, in its application, for if given in too large quantities and placed in too close proximity to the roots of the plant, its effects are fatal. Its value for all purposes is greatly increased by being mixed with charcoal, or when this is not at hand, with plaster. Every man who keeps hens should have his hen-house so constructed as to save all the manure, and save it dry as may be, and he will find it no inconsiderable item in his matters of rural economy.

W. BACON.

LET every farmer at this season of the year, look well to his kitchen garden. No labour is more advantageously expended than in providing for a good supply of vegetables.

Use of Oxen.

So deep is the conviction of the great saving which would be accomplished by individuals, adding immensely, in the aggregate, to our national wealth, by *a more extended use of oxen* in lieu of *horses* in the general labours of husbandry, that the occasion is here embraced to present the views by which that conviction has been established, and the editor feels persuaded that he might venture to introduce these views, on the score of their intrinsic importance, even though the subject to which they relate were not so naturally associated, as it seems to be, with a work on the *diseases of cattle.*

That "a farming district may be judged of by its *working oxen*, as safely as by its barns or its corn-fields," has been laid down as an axiom by a Committee of Farmers,—working men in the true sense of the word,—of Massachusetts, at an exhibition where no premium was offered for *horses*, expressly on the ground that "it was believed that the interest of the farmer is promoted by substituting the ox for the horse, *for most purposes*, as he is fed with less expense, is more patient of labour, and is more valuable when his service is ended." This declaration in favour of the ox for "*most purposes*," is at once explicit and broad, and might seem to settle the question; but there are considerations arising out of difference of soil and climate, which obviously demand a comparison of circumstances to see how far that system admits of general application, which is here proclaimed on the best authority to be expedient throughout New England: and this brings us at once to the most formidable objections to the use of oxen—their *alleged incapacity to withstand, when labouring, the heat of more southern latitudes*, and their *slowness of motion.*

As to New England, in addition to the evidence already quoted, we may give here the answer of the venerable Josiah Quincy, now President of the time-honoured Harvard University, to a letter once addressed to him by the writer of this: "Oxen," said he, "are used almost wholly for plough and team work in this quarter of the country. A *single* horse is usually kept by our farmers to go to mill and to church, and for the convenience of the family. This is so universal as to be almost without exception among mere farmers. They certainly answer all purposes except perhaps speed, and in this, on a *long journey*, they are considered as *quite equal to horses.* Our farmers are so satisfied with their utility and economy, that no argument would induce them to change."

Hence it is seen that no reasoning is necessary to recommend the ox to general use in all that portion of America, and this evidence has been adduced to prevail upon southern readers to *reflect* on the subject, by showing, what many of them do not know, that already, in *many* of our States where the folks are nice judges of economical and labour-saving machines, animate and inanimate, oxen are actually substituted, and horses altogether banished for all farming purposes, and that their speed on long journeys is quite equal to that of horses. On the point of *speed* we shall speak again and conclusively, when we shall have dismissed the one in hand, to wit:—*capacity to bear heat!*

It was for a long time believed that the ox was a native of Europe, and that in the Aurock, running wild in the forests of Poland, his original type was to be found; but Cuvier's researches in comparative anatomy have established the belief that the cow is a native of Southern Asia, and thence may be deduced an argument that there is nothing in the natural constitution of the ox which forbids his manifesting his entire capabilities in southern climates. If there were, how is it that in South America he reaches his highest developements of size and power? As one of the Commissioners to South America, Chancellor Bland, in a report which Mr. Adams pronounced to be one of the ablest papers ever presented to the government, thus describes the ox-carts employed, and the wonderful powers of endurance of this patient animal in crossing the pampas of Buenos Ayres. It speaks conclusively to both the objections—want of speed and power to bear heat.

"The Tecuman and Mendoza carts, at a little distance, looked like thatched cabins slowly moving over the plain—the whole machine is destitute of a nail or a bit of iron; its great coarse wheels are not less than eight feet in diameter; six oxen, in general noble strong animals, move it; the two front pair have a great length of cord by which they draw; and the load of the cart, which, on an average, is not less than four thousand weight, is pretty nearly balanced on the axle-tree; the body of the cart is either covered with raw hide or thatch, made of reeds or straw; and with a collection of brushwood, as fuel, tied on the top, and brought from the westward of the pampas, these carts are seen crossing the plains in caravans of from thirty to forty together. On the journey the oxen are unyoked occasionally through the day and night, and permitted to seek their food round about. Thus without any other provision than what is necessary for himself, the carrier pursues his way over a waste of

thirty days or six weeks passage. From Buenos Ayres to Mendoza, the distance is nine hundred miles, and the journey is performed in about thirty days."

In some parts of England they formerly had *ox races*, and it is said that some years ago an ox ran four miles, over the course at Lewis, for one hundred guineas, at the rate of fifteen miles the hour.

We are told that in India bullocks are used for the saddle and coach, and that there travelling oxen are curried, clothed and attended, with as much solicitude, and much greater kindness, than we bestow on our best horses. The Indian cattle are extremely docile, and quick of perception, patient and kind; like the horses, their chief travelling pace is the trot; and they are reported by those who have ridden them often, to perform journeys of sixty successive days at the rate of thirty to forty-five miles a day.

To come back to our own country on this point, it is worthy of being here added that in an address delivered before the Barnwell Agricultural Society of South Carolina in 1821, Dr. J. S. Bellinger remarked, that "in the lower districts of our State they appear fully to appreciate the value of their labour in heavy drafts. With those of us who have attempted the use of them, oxen appear fully calculated to answer the many purposes upon our farms to which we almost exclusively apply the more expensive, though nobler animal, the horse."

Time was when the horse was not considered "the nobler" of the two; else why the many cautions in Scripture in favour and in honour of the *ox*—thou shalt not muzzle the *ox*—thy *ox* shall not labour on the sabbath-day—thou shalt not covet thy neighbour's wife nor his maid—nor his *ox!*

The late James M. Garnett, of Virginia, honoured be his name by all friends of American agriculture, stated in one of his addresses—"A gentleman of my acquaintance had a mixed team of horses, mules and oxen—in each season his horses failed first, the mules next, although both were fed upon grain and hay; and the oxen, fed exclusively on hay and grass, *finished the crop.* But to come down to the present time and nearer home, in Maryland, at the hottest season of the year and the most busy one with the planter, the same teams of oxen are worked, during the whole day, hauling very heavy loads of green tobacco for weeks together, and do well without any food but the grass of common pasturage on being turned out at night—whereas horses, working steadily in the same way, on the national road in wagons, consume twenty-five pounds of hay, and grain at the rate of four bushels of oats per day for the five horses, or four-fifths of a bushel for each horse—or, what is considered equivalent, four bushels of corn in the *ear*—making of oats at the rate of two hundred and thirty-two bushels for each horse for a year!

As to *horse* power on the national road, the following is the answer from Major Thruston:

"Cumberland, Maryland, Nov. 17, 1843: The general result,—for they differ widely in their opinions,—obtained by conversation with the oldest *teamsters on* the national road, is this—A five-horse team with a load of sixty cwt.—the average—will make daily, throughout the year, *fifteen miles per day;* the weight of the empty wagon between one and a half and two tons. At this work horses will not last as long as at farm-work by one-third, certainly. They average one set of shoes monthly, each horse; cost of shoes, one dollar each per month; feed, four bushels of oats per day, or four-fifths of a bushel per day to each horse; the same of corn in the *ear;* hay, twenty-five pounds. On this subject they are uniform in their statements. This amount of food is enough, and not more than will be consumed."

In answer to the argument against oxen now under consideration, and the one which has had most influence in restricting the use of them, we now offer the views urged by the illustrious Madison, whose pen simplified and enlightened every subject it touched, as could not but happen with a mind so pure and so bright.

The objections generally made to the ox are—1st, that he is less tractable than the horse; 2nd, that he does not bear heat as well; 3rd, that he does not answer for the single plough used in our corn-fields; 4th, that he is slower in his movements; 5th, that he is less fit for carrying the produce of the farm to market.

The first objection is certainly founded in mistake. Of the two animals the ox is the most docile. In all countries where the ox is the ordinary draught animal, his docility is proverbial. His intractability, where it exists, has arisen from an occasional use of him only, with long and irregular intervals; during which, the habit of discipline being broken, a new one is to be formed.

The second objection has as little foundation. The constitution of the ox accommodates itself as readily as that of the horse to different climates. Not only in ancient Greece and Italy, but throughout Asia, as presented to us in ancient history, the ox and the plough are associated. At this day, in the warm parts of India and China, the ox, not the horse, is in the draught service.

In every part of India the ox always appears, even in the train of her armies. And in the hottest parts of the West Indies, the ox is employed in hauling the weighty produce to the seaports. The mistake here, as in the former case, has arisen from the effect of an occasional employment only, with no other than green food. The fermentation of this in the animal, heated by the weather, and fretted by the discipline, will readily account for his sinking under his exertions; when green food even, much less dry, with a sober habit of labour, would have no such tendency.

The third objection also is not a solid one. The ox can, by a proper harness, be used singly, as well as the horse, between the rows of Indian corn; and equally so used for other purposes. Experience may be safely appealed to on this point.

In the fourth place, it is alleged that he is slower in his movements. This is true, but in a less degree than is often taken for granted. Oxen that are well chosen for their form are not worked after the age of about eight years—the age at which they are best fitted for beef,—are not worked too many together, and are suitably matched, may be kept at nearly as quick a step as that of the horse, might I not say quicker than that of many of the horses we see at work, who, on account of their age, or the leanness occasioned by the costliness of the food they require, lose the advantage where they might have once had it?

The last objection has most weight. The ox is not as well adapted as the horse to the road service, especially for long trips. In common roads, which are often soft, and sometimes suddenly become so, the form of his foot and the shortness of his leg are disadvantages; and, on roads frozen or turnpiked, the roughness of the surface in the former case, and its hardness in both cases, are inconvenient to his cloven foot. But where the distance to market is not great, where the varying state of the roads and of the weather can be consulted, and where the road service is less in proportion to the farm service, the objection is almost deprived of its weight.

In cases where it most applies, its weight is diminished by the consideration that a much greater proportion of service on the farm may be done by oxen than is now commonly done; and that the expense of shoeing them is little different from that of keeping horses shod. It is observable that when oxen are worked on the farm over rough frozen ground, they suffer so much from the want of shoes, however well fed they may be, that it is a proper subject for calculation whether true economy does not require for them that accommodation, even on the farm, as well as for the horses.—*Skinner's Cattle Doctor.*

Inspections at Philadelphia.

A CORRESPONDENT of the Bulletin gives the following as the total inspection of certain articles in the District of Philadelphia, during the year 1847.

Flour.

671,359	barrels	superfine	flour,
6,471	do.	do.	do.
20,408	do.	fine	do.
109	half barrels	fine	do.
11,320	barrels	condemned	flour.
64	half barrels	condemned	flour.
2,612	barrels	middlings	flour.
26,971	do.	rye	do.
937	do.	condemned	flour
292,347	do.	kiln dried	corn meal.
1,777	do.	condemned	do.
168	half barrels	corn	meal.
1,475	hogsheads	do.	

Estimated value of the above, $6,015,449 50

Butter and Lard.

29,052	pack.	ex. butter,	No. 1,	696,490 lbs.
130	do.	do.	do.	3,044
1,024	do.	ex. lard,	do.	62,819
30,206				762,353
		Valued at		$97,175 66

A Few Words for Children.

You were made to be kind, says Horace Mann, generous and magnanimous. If there is a boy in the school who has a club foot, don't let him know that you ever saw it. If there is a poor boy with ragged clothes, don't talk about rags when he is in hearing. If there is a lame boy assign him some part of the game which does not require running. If there is a hungry one give him part of your dinner. If there is a dull one help him to get his lesson. If there is a bright one be not envious of him; for if one boy is proud of his talents, and another is envious of them, there are two great wrongs and no more talents than before. If a larger or stronger boy has injured you, and is sorry for it, forgive him, and request the teacher not to punish him. All the school will show by their countenance how much better it is to have a great soul than a great fist.

Rearing Lambs for Market.

At our request, Mr. George Edwards, of Mechanicsville, Saratoga county, has furnished us the following account of his mode of managing sheep and rearing lambs for market:

"As my farm is near our large markets, and well adapted to what I call *mixed husbandry*—that is sheep, grain and grass—the soil a loam, high and dry—I find the rearing of fat lambs the most profitable branch of farming. The ewes have generally been bought in September—always selecting those of rather coarse wool, they be ng larger and generally the best nurses. The rams (pure South Downs) are put to them early in November, and the lambs are dropped about the first of April. The ewes are fed during the winter with cornstalks and straw, and about one month before lambing, and from thence till they go to pasture, they are each fed with three quarts of brewer's grains per day.

"Last year 100 ewes raised 100 lambs. The wool, which was sold at Troy at 32 cents per lb., brought $104 75. Twenty-five lambs sold at $2 each, one ram lamb $5, one do. $3, and the remaining seventy-three at $1 75 each. They were all taken away by the last of July. The ewes were sold to the butcher at $2 each in October—so that the hundred ewes realized $490 50.

"It is desirable to get rid of the lambs early, that the ewes may have time to fatten, so that they may be sold to the butcher in the fall—giving room for a new flock which should be brought in for the next season.

"It is a good mode, and one which we have frequently adopted, if we have a piece of rye which had been sown on a clover sod, (or where the land was otherwise in good order,) to plough the stubble the very moment the rye is off the field, and sow turnips. The furrows are first harrowed with a light harrow lengthwise and then crosswise—the seed sown broadcast, 2 lbs. per acre—ending with rolling the ground with a very light roller. The turnip called the stubble turnip is preferred. A larger quantity of seed is sown than some use, in order to get a good stand in spite of the ravages of the fly. I have now procured one of Emery's seed-planters and shall probably sow the turnips in drills henceforth—the rows two feet apart, to give space to work between them with a horse and small plough or cultivator. As soon as the turnips are up about two inches, we put on the light harrows, passing both ways, keeping a straight course. If the turnips are in drills, the drags are only run across the rows. About two days after the harrows are run over the turnips, they are gone over with hoes and thinned where they are in bunches.

"Ten acres of turnips, with a tolerable even plant, will supply and fatten 150 sheep, and will afford fine keep for them from the first of October to the end of November, (if there is not much snow,) at a time when pasture is generally short. About one acre should be fenced off to commence with, and after four or five days add about one-fourth of an acre every other day. At first the sheep will not appear to like the turnips, but after three or four days they will eat them rapidly. A boy should be placed with the sheep for two or three hours each day, to chop up the shells—the sheep will fall back and eat them up clean.

"While the sheep are on the turnips, it is an advantage to give them a little cut hay in troughs—say about three bushels per day for 150 sheep.

"Let any man try this plan, and if his land is in good heart, he will not only find his sheep get *really fat*, but they will leave the land in fine condition for a spring crop. It must be observed, the more attention that is paid to keeping down the weeds, the better will the crop pay cost."—*Cultivator.*

Summer Management of Sheep.

Let us imagine the time to have arrived when the duties of the flock-master relative to foddering his flocks are about to be suspended by turning them to pasture. This period, in the northern States, is from the 1st to the 20th of April. It is a critical time with sheep, owing to the rigor and vicissitudes of the climate, and their long confinement to dry food, especially so with the finer-wooled varieties, and therefore claiming more than ordinary care. But many of the duties involved require to be exercised a month or more antecedent to the time under consideration.

If sheep have been confined wholly within yards, and not permitted to taste the young grass until it is sufficiently advanced to satisfy their hunger without the aid of other food, there is great danger in turning them upon it too suddenly. This results from its flashy and stimulating properties, causing *scours* or *purging*, and unfortunately with that portion of the flock least able to endure the attack, namely, those in low flesh, and consequently feeble. In nearly all such cases death will often follow, unless a timely arrest of the disease is made by a return in part to dry food.

But it is better to attend to the prevention, which is, to allow the flock to graze an hour

or two each day for at least a week previous; and during this time let the best of hay, accompanied with grain, be provided. If sheep, however, have been trained to eat roots, and have partaken of them freely through the month of March, the danger accompanying the too sudden transition from hay or other dry food, will in a measure be avoided.

Notwithstanding the duty of the shepherd may have been faithfully discharged by taking out from time to time such as are failing in flesh during the winter season, and putting them to better keep, yet not a few in indifferent condition will be found in large flocks at this period, which had better be separated and treated accordingly. The two classes needing this attention perhaps the most, are generally ewes which have already or are about to yean, and yearlings. Whatever they are, let them be put upon the best pasture the farm will furnish, and a few only together.

The separation will be quickest performed by adopting the following method:—Let the flock be stationed one or two hundred yards distant from a gateway or bars, and then, if called by the shepherd, moving on a run, the weaker sheep will soon fall to the rear, and when these are about to pass the gateway, let them be cut off from the others by some one in the vicinity. This mode is sure, and is preferable to pounding the flock, as mistakes are unavoidably committed by so doing, especially with yearlings, owing to the unusual length of wool in individual cases, which frequently hides from the shepherd their impoverished condition.

An important duty devolves upon the flock-master to see that his sheep are regularly and plentifully salted from the time they are turned to pasture till the commencement of the foddering season.

Fortunately the question, whether salt contributes to the health and thrift of sheep, is, at the present day, no longer mooted, its salutary effects being universally admitted. It operates to stimulate the appetite, and essentially aids the digestive organs in extracting the nutriment of food; and within a few years it has been ascertained that its free use to sheep has mitigated, if not wholly prevented, in some localities, that terrible scourge to British flocks, the *liver-rot*. Its security against the attacks of other dangerous maladies, further time and observation will doubtless demonstrate.

In Mr. Youatt's work will be found the following remarks on the benefits of salting:—"Passing by the beautiful country of Montpelier and the mouths of the Rhone, the traveller can study the fine sheep and the sheep husbandry of Arles. The district of the Crau, in length nearly eighteen miles, and about half as much in breadth, extends from the mountains towards the sea-coast. It is one uniform gentle declivity: in no part of it is there the slightest portion of stagnant water, and not a tree or shrub is to be seen. The soil is dry and apparently barren enough, but produces a varied herbage well adapted to the sheep. Not less than one hundred and thirty thousand sheep graze on this declivity."

A writer in the Memoirs of the Royal Academy of Sciences at Paris attributes the thriving of the sheep on such a spot to the free use of salt, thereby enabling the digestive organs to extract every particle of nutriment which the food contains. He says, "On this spot, seemingly so sterile, by the free use of salt, more numerous flocks of sheep are bred and reared than upon any other common of equal extent throughout the whole kingdom; and, what is not less remarkable, the sheep are healthier, hardier, and endure the severity of the winter with less loss, though they have fewer sheep cots for covering, than those fed and bred on more copious pastures, and that have, besides, the advantage of more convenient shelter."

For a short time after sheep have been turned to pasture, precaution must be observed not to salt them too freely, as, in conjunction with the stimulating nature of young grass, scours or purging will follow; and its effects upon ewes shortly before parturition, if allowed access to it without limit, will tend to abortion, as will be found more fully noticed in another chapter.

If common fine salt (say Salina make) is used, two quarts to the hundred, given about once a week, is a prudent quantity at that time, and may be increased to four quarts after the first of May, for every fourth or fifth day, during the remainder of the pasture season. If coarse salt (St. Ubes) is used, a quarter to one-third less than of fine will be proper, it being of a much stronger quality.

Salting in troughs would be well enough, provided the sheep could be stationary in one enclosure; but the necessity of their removal frequently for change of pasture, requires the removal of the troughs also; and the flock-master with several hundred sheep will soon learn that that is quite too troublesome. Again, troughs are thought by many indispensable during the season when the *Estris Ovis*, or sheep gad-fly, is winging its tormenting career, for the reception of the tar (upon which salt is sprinkled) as a defence against its attacks. But this does not supersede their removal, and if time and their expense are considered, it will be found cheaper to pound the flocks several times during the

flight of the fly, and with a common paint brush or swab, tarring their noses can very quickly be performed, and far more effectually than it can be done by themselves in the troughs.

The writer salts his sheep upon the ground before the dew evaporates, selecting a place which is clean, and the grass short, and divides a handful into two or three parts, as a large quantity thrown upon one spot will not scatter sufficiently the quantity used for the flock, and thereby the sheep are afforded a more equal chance. Salt is a fertilizer of the soil, and should any be left uneaten, which is not very likely, of course its effects will not be lost.

Many suppose that sheep, late in the fall, require little or no salt. This is quite a mistake, it being the very period when it will prove most useful to them, by contributing to extract the little nutriment left in the decaying herbage, as well as causing its better relish.

Salt is quite as necessary in the foddering season, if not more so, than at any other time, for the reason that dry food being harder of digestion than green, the stimulating properties of salt is requisite to aid the process. It is not important that the hay, or whatever else may be fed, is salted, if the sheep have access to it in troughs or mangers. But if the hay is salted when it is secured, none else will be required. This is deemed by a large majority to be the better way, and coincides with the writer's views and practice.—*Morrell's American Shepherd.*

The Agriculture of Belgium.

No country in Europe of so limited a territory, presents a greater variety of aspect than Belgium. The natural landscape of the two Flanders and Antwerp is characterized by a gloominess and monotony which the variety of soil and production can scarcely compensate. Here and there are scattered plains, bounded only by the visible horizon, and intersected by sluggish streams and artificial communications, that serve to drain the country, and afford innumerable facilities for inland navigation. Flanders has a dense population, and her rural districts are delightfully diversified by woods and arable lands, and thickly studded with towns and villages. Towards the sea coast rise the gently undulating towns or *dunes*, composed of loose sand, often extending three miles in breadth, but of very moderate height. On the contrary, turn to the coast of Hainault, Brabant, and the Walloon provinces, and you will find charming and romantic situations. Here is a surface, broken by ravines or abrupt rocks, and there clothed with great masses of forest. Indeed, the whole of Belgium has a woody appearance. Trees are planted in the hedge enclosures of the fields, while the roads are lined with double rows of the majestic linden, and the canals shaded with poplars and willows.

The western part of Belgium was early known as the centre of European manufactures and commerce, and while the rest of the civilized world was merged in comparative barbarism, the mechanical arts were successfully cultivated in this region. At the period of the crusades her navigation was so generally developed, that when the kings of France and the emperors of Germany sent their mariners by land or in Venetian or in Genoese bottoms to Asia, the Flemish marine boldly coasted France and Spain, passed the Straits of Gibraltar, and disembarked her troops on the coast of the Levant.

There is Bruges, a few centuries ago the *entrepôt* of the whole commercial world; and during the palmy days of the Hanseatic League, she was a leading city, and grand compting house for that wonderful trading establishment. Her ancient and splendid edifices are monuments of her former opulence and grandeur; but this whole country, except the margin of streams, was either a *dry sand bank*, or an immense morass, on which grew the *heath* and *aquatic plants.* Even now, if left to nature, instead of increasing in fertility, it would return to its original *state.* And what proves beyond the shadow of doubt that it was formerly submerged, is the alternation of its layers of sand and clay, mingled with marine shells. Indeed, the Rhine has brought down from the Alpine regions and deposited its debris, in the shape of sands. The Meuse and Scheldt, in their advances to the ocean, have formed a fine argillaceous and calcareous soil, the remains of animal and vegetable substances, drawn from their basins or brought by the oceanic tides. The barren heath, by a happy combination of clay and vegetable and animal manure, has thus become a garden, and its rich, black, loamy mould indicates the fertilization of centuries. Those salt marshes, called in the language of the country, *schorres*, have been reclaimed from the inundation of tides by embankment and dykes, and are now proverbial for their fertility. In the vicinity of Ostend, the great Polden, for example, bearing the appellation of Snaerskinke, has been formed in this way, and exhibits a noble specimen of Flemish industry and perseverance. Travelling over Pays de Waes, a perfect garden, we should little suspect that the fine dark loamy soil

which on every side teems with the rankest vegetation, was formerly a dreary waste, on which a blade of grass scarcely grew.

The flourishing condition of agriculture in the low countries is unquestionably the mainspring of their prosperity in manufactures, which, in turn, by increasing the size of towns and the demand for the riches of the soil, give a stimulating activity to the interchange of the commodities. To what other cause can we attribute the extreme multiplication of the human species, but the development of these great sources of national prosperity?

Commerce and manufactures have multiplied objects of cultivation and increased the demand for them. The production of flax, hemp, oily and colouring plants, are thus made as profitable to the husbandman as the production of breadstuffs and animal food, and the field that grows the raw material of the white veil which throws such bewitching charms around Flemish beauty, raises the price of the cereal and culinary productions. The vascillating wants of trade may disturb for a season, however, the just equilibrium between production and consumption, but eventually all the fruits of agricultural industry become balanced. Thus the perfection of rural economy that arises from the necessity of providing for the subsistence and comfort of an increasing population, is the glory of the country. But a stranger, on crossing the Belgian frontier, would be greatly surprised to find her rural districts so strongly wedded to antiquated notions and modes of husbandry. Even the introduction of new plants, except the potatoe and some colouring vegetables, has been of rare occurrence. It is true that the genius of Napoleon called into cultivation the sugar beet, but it may be said the improvements in agricultural implements and seeds, for which other countries are so justly celebrated, have been slow to find their way into this region. What a striking contrast do the American and English farming utensils form, to the Hainault scythe and Flemish plow. The present King of Belgium has indeed introduced many modern improvements in the tillage of land and the breed of domestic animals, yet, strange to say, the characteristic tenacity with which the Belgians cling to old established notions have retarded the successful accomplishment of these governmental ameliorations.

But when we advert to the fact of the enormous increase of the value of land and buildings within the last ten years, the beneficent supervision of the government is every way worthy of praise and imitation. The great council employed to watch the agricultural interests, together with a veterinary and agricultural college, all stationed at the capital, have elevated the standard of education among the cultivators of the soil, and called into successful activity an immense amount of dormant wealth.

This college is liberally patronized by the State, and its chairs are filled by professors who are men of science and great experience; and under its auspices are delivered lectures on chemistry, botany, and agriculture. Societies have been formed in the various provinces for the promotion of rural industry; but what has contributed in an eminent degree to develope the capacities of the soil, is the abolition of the feudal tenures, game laws, and partial and onerous burdens on the industrial classes.

The law of equal succession, which has subdivided France into many small estates, owned by frugal and temperate, but poor proprietors, works admirably in Flanders. The prospect of a rural retreat gives a stimulus to the industry and economy of the peasant. For here the cultivators of the soil either hold it in fee, or are tenants on durable leases. What a contrast does it form to that miserable *mélayer* system of tillage that blights the industry and enterprise of some of the finest territories on the continent. The operative classes are not content with the bare necessaries of life; their tidy wives and well clothed children show a vast superiority over the starving and haggard population of Ireland. Even a fondness for religious processions and superstitious pageantry that connects Roman Catholicism with filth and squalidness in Savoy and Italy, are not the accompaniments of the rural populace of the *low countries.*

On the contrary, what traveller is not delighted with a Flemish farmery, where order and neatness dwell? Even in the stalls in which the horse and ox are fed, you can be seated and regale yourself with a cup of coffee, or the smoke of the pipe, without offending the most sensitive nerves. Go and ascend the lofty belfry which surmounts the old Town-Hall at Bruges, and the panorama to the north will fill your eye with a beautiful succession of vividly verdant fields, varied by masses of wood, streams and picturesque villages. But this very soil, if cultivated like many parts of the world, would require a heavy importation of human food to supply the demand for the consumption of the people. But Belgium exports an immense quantity of her agricultural productions. Let us examine this matter for a moment, and see whether the true cause of this unsurpassed affluence of husbandry, may not be traced to the economy and industry of man. The

pervading principle of her tillage is to make a farm like a *garden*. Even the pasturages are so subdued and fertilized that they yield four-fold more than the same land in less cultivated countries. It is conceded that ten acres of the best vegetables would maintain a larger stock of grazing cattle, than forty acres of common farm or coarse grass. The lease of land on long terms, based on improvement, the payment of rent in money, or kind combined with money, the restraint not to sub-let, and the powerful motive to obtain profitable crops, joined with habits of sobriety, forethought, and a well balanced economy, have elevated the Belgian peasantry far above the like operatives on the continent.

Flemish farms vary very much in size in the northern parts of the country, but rarely exceed fifty acres. You often meet with farms of twenty acres, on which you will find a pair of fine horses, four to six milch cows, a farmery that contains a good and substantial dwelling house, out houses and stables, kept with wonderful neatness and economy. Within the area, and below the rural buildings, is placed the urine tank, that receives the liquid discharges from the domestic animals, and hard by is the compost bed, on which is deposited whatever can form *manure*.

Here permit me to say, that on a farm which I had the pleasure to examine, that contained but 45 acres, there were fed two horses, fifteen milch cows, and several heifers to supply stock, besides five cows and some calves fattened off yearly; some few miserable sheep and long-legged and slab-sided hogs, and the master and family, with six male and female domestics. The produce of the stock of live animals was not the moiety of the real income of the farm. The surface was teeming with artificial grasses, wheat, rye, rape, and flax, all richly remunerating the indomitable perseverance and unwearied industry of the cultivator. The cattle and horses were continually stalled; fed in summer on green clover, and in winter with esculent roots relieved by meal made from small grain. But what was an inexhaustible source of fertility to this productive spot, took its rise from the careful preservation of all vegetable and animal matter, together with the excrementitious *substances* of every thing living within his shed. And what in other countries is wasted, is here an article of commerce—I allude to *urine*, which in a single *cow* is worth ten dollars a year.

No wonder then, that the net returns to the cultivators of the soil will average more than a quarter of the value of the grass produce. The deduction consists in the charges of production, such as the price of seed, manure, labor, interest on capital, repairs to buildings and farming utensils, or a rent to the proprietor, the public burden of taxation, and the annual loss by the decay of strength and mortality of the domestic animals—nor is the cost of the food of men and beasts to be neglected—in this account.—*New York Agricultural Transactions.*

From Downing's Horticulturist.

The Vineyards of the Ohio.

In writing upon the *Vine*, it is impossible to forget the many associations of antiquity which are inseparably connected with it. In sacred history, these are especially interesting. In all time, has the vine, and the enjoyment of its fruit, been regarded as a blessing especially adapted to the health, comfort and luxury of man. "And Judah and Israel dwelt safely, every man under his own vine and under his own fig tree."

The vine seems to have been given to mon in a more perfect state than most other fruits; for though many of the fine varieties are the result of patient cultivation, the finest wild grapes of either Syria or America are truly delicious, when compared with wild crabs or wild peaches. Its culture and enjoyment, in the earliest ages of the world, were considered synonymous with the prosperity and happiness of man: "and they shall build houses and inhabit them, and they shall plant *vineyards* and eat the fruit of them."

Though the world has grown old, the paternal love of vineyards has not in the least diminished in the heart of man. We are just as busy, at least in this part of the new world, with planting vineyards as were Noah and his immediate descendants; and I may, therefore, I trust, be pardoned for giving some detail of the early history of this branch of agriculture in the valley of the Ohio.

If we take a retrospective glance of fifty or sixty years—a period the scenes of which are perfectly within the recollection of some yet on the active stage of life—when the unexplored wilds of the Ohio—the now *indeed* beautiful Ohio—were penetrated by a few hardy adventurers, seeking to better their condition, with but little to cheer them in their dreary course, but encountering, at every step, the shrieks of wild beasts, and their but little less ferocious companion, the Red Man, we shall have some data from which to start. The great abundance of the wild grape, found indigenous in the forest, and the luxuriancy of their growth,

towering and spreading over the tops of the tallest trees, abundantly loaded with fruit, justifies the idea, that the better and finer sorts would flourish here also. How or from whence these were to be obtained, or what sorts would prove adapted to the soil and climate, would remain a matter of slow inquiry and experiment. This must, of necessity, mainly depend on emigrants, in after time, from vine-growing districts, without a knowledge of the soil and climate, bringing with them old and valued sorts, and applying their old and accustomed modes of cultivation. These emigrants brought with them a strong natural prejudice against native sorts, and a different mode of treatment. Before success could attend them, old prejudices and predilections must be abandoned, and a new practice, and native sorts sought to occupy the place of old friends unsuited to their new locations. These were hard struggles, which required time to bring to a successful issue.

Early attention was drawn to the subject, and efforts were attended with more or less success. None of these were, however, of much importance, until about the year 1796 or 7, when John James Dufour, a zealous Swiss, came to Lexington, Ky. Having previously looked up all the vine cultivators east and west, the smallest of them not escaping his notice. He succeeded in forming a joint stock company, for the purpose of extensive operations. The first difficulty presenting itself, was a want of plants. These were at much cost, collected partly about Philadelphia, New York and Baltimore, with some he had brought from Switzerland, to the amount in all, of thirty-five sorts, *all foreign varieties.* Most of these were brought to fruiting, and some specimens of wine were produced. "This was drank by the stockholders," I presume with much satisfaction. Unfortunately, however, these vines soon after perished with the mildew and other diseases to which the European sorts were found subject, except a few stocks of two sorts, the Madeira and Cape. This was so discouraging, that after a few years efforts to increase the stock of these, the former, in the mean time, sharing the fate of the rest, the project was abandoned, and the little band dispersed. Afterwards joining themselves to a small colony of their countrymen, who had commenced a settlement on the banks of the Ohio, in the then territory of Indiana, some fifty miles below Cincinnati, where they had commenced the cultivation of the vine in 1802 This location was afterwards named Switzerland, and the town Vevay, in honour of their fatherland. Here, uniting their force, and adding their dear-bought experience, they commenced vigorous and successful operations with the Cape grape, [Alexander's or Schuylkill Muscadell.] As there is some doubt and dispute about the origin of this grape, I will here add Dufour's account of it. He says he procured it of one Legoux, residing at Spring Mill, near Philadelphia, who informed him that he imported it from the Cape of Good Hope. There, he supposes, it must have been carried by the Dutch settlers, and thinks it hence a European grape.* Be this, however, as it may, importance must always attach itself to it as the foundation of a successful effort to cultivate the grape in the valley of the Ohio, for the *manufacture* of *wine.* Time will show whether for good or evil, to the morals of our people.

Here these indefatigable strangers persevered in their efforts, and produced, for many years, a dark red wine, too harsh and astringent, however, to receive general favour, which confined its use mostly to the German and French population. Its harshness was probably owing to the age at which most of the cultivators found themselves obliged to sell their product. Bottled samples of it have been kept until it had attained an age of some years, which were pronounced, by good judges, to resemble and equal fine Burgundy, showing what it is capable of making, with care and age. The average yield, per acre, in their early operations, was 180 gallons, and the market price $2. This price, however, was greatly reduced by importation of French wines, so that they have been driven out of the market, and their operations abandoned. The fruit of their vineyards not possessing the rich and pleasant flavor to recommend it to public favour for the table.

Experience conclusively showed that it is the native sorts on which reliance must be placed; as the foreign sorts, with no exceptions, (unless the Cape be such,) have proved a failure, and disappointed all expectations. Although the culture of the vine was yet in its infancy, sufficient had been done to prove beyond dispute, that the soil and climate of this valley are well adapted to the grape; and all that was necessary to complete success, was some suitable native sort. This had not been lost sight of, while the suspension at Vevay tended to develop and to make room for a more varied and diffused system of cultivation, with different and better sorts. Of these, the Catawba has taken and maintained the lead. So successful and profitable has its culture proved, that I shall not be above the truth to set down the number

* It is unquestionably an American grape.

of *acres* now covered with it in this vicinity, at *four hundred.* Of course it will be understood that only a part of these have come into fruiting. With all this quantity under cultivation, such is the desire for wine making and its profits, that few markets where there is any pretension to cultivate the vine, are more deficient in the supply of the fruit than ours, at the high price of three to five dollars per bushel. The reasons assigned for this, are, that the bushel of good fruit will yield, on an average, four gallons of wine, and this readily commands from one to one dollar fifty cents per gallon from the press. It should be borne in mind, that the extension of the Ohio vineyards, thus far, has been limited only by the supply of plants. From this,—as the plants are now multiplied with great facility and at low prices,—should their product continue to meet a demand, its future extension may be inferred. However, I promised to confine my remarks to its infantile struggles into existence. My purpose in this article is answered, in having shown that every man may indeed set under his own vine, (if not his fig tree,) in our highly favoured valley, and enjoy the luxury not only of its shade, but the greater one of an abundance of fine rich fruit, with none to molest or make him afraid.

Very respectfully,

A. H. Ernst.

Spring Garden, Cincinnati, Feb. 1st, 1848.

Pork packing in New York.

At the pork packing establishment of Messrs. George Leland & Co., 536 and 538 Washington Street, in this city, we observed a day or two since a sample of unusually large and superior dressed hogs, ready for barrelling—all the product of Dutches county, in this State, as follows:

Raised by,	Hogs,	Weight	Averaging.
Egbert Smith	11	3,835 lbs.	249 lbs.
B. Culver,	23	8,645	376
George Barlow,	9	3,235	359
David Hicks,	6	2,290	381
A. Hoffman,	22	10,759	490
A. Schryver,	10	4,370	437
Samuel Towner,	6	2,375	379
A. A. Schryver,	11	4,130	376
Philo Stukle,	3	1,170	390
D. Gifford,	9	3,426	381
	110	44,135 lbs.	401 lbs.

Of these, 110 hogs, the smallest weighed upward of 300 lbs. and the largest 700, the whole weighing 44,135 lbs., averaging 401 lbs. each; a pig seven months and 22 days old weighed 410 lbs. This, we understand, considerably exceeds the average weight of Ohio hogs. We learn from Mr. Leland that about 100,000 dressed hogs are received here annually, four-fifths of which are sold fresh for city consumption, this branch of trade having materially increased of late, while the packing, which ten or twelve years since reached 20 to 30,000 bbls. annually, has steadily decreased to about 1000 bbls. annually. Large quantities are now cured in dry salt and packed in bales for the English market. When the Erie and Albany railroads shall have been finished, it is believed that dressed hogs will be received here from the West, and that in this city—which furnishes so many facilities for the business—a great part of the pork packing of the country will be carried on.

Remarks.—some of our readers who have been taught to regard a pig of 200 pounds as a respectable porker, will hardly credit the statement, that one only seven months and 22 days old, ever weighed, when well dressed, 410 pounds. But be beg to assure our Southern friends that Dutchess county dairymen, while learning to make butter, which sells at thirty dollars per 100 pounds in this city, to butter the bread of exclusive planters, have found out a way to transform buttermilk, clover, corn meal, peas and barley into pork, in a speedier and more profitable way than most farmers are aware of. Suppose we were to ask every planter in Georgia how many pounds of sound corn nature requires to make one pound of good bacon, what number, think you, could answer correctly? If 200 days' keeping on sound principles will suffice to make a pig weigh 410 pounds, why keep him so badly till he is a year and a half old, that he will weigh only 200 pounds? The quantity of food consumed in the 300 extra days of his life and positively wasted, so far as making flesh is concerned, is prodigious. If it is your object to keep the animal, that he may grow to a fair size, why not make him do up his growing and fattening also, on the least quantity of food, and in the shortest time?

The *art* of transforming grass, peas, roots and corn into cheap pork, beef and mutton, needs to be carefully studied. If we mistake not the business of manufacturing the edible flesh of domestic animals can be rendered profitable at the South. The whole process must be conducted with perfect system. Corn should be ground into meal, and that boiled into pudding and mixed with cooked peas, potatoes, or some cheaper food.—*Southern Cultivator.*

Guano.

From Travels in Peru, by Dr. John J. Von Tschudi.

Opposite to Pisco and Chinca there is a group of small islands, of which the largest, Sangallan, is six English miles distant from Pisco. These islands have of late years become celebrated on account of the great quantity of Guano that has been exported from them.

Guano—(or according to the more correct orthography, Huanu, which is a term in the Quichua dialect, meaning "animal dung;" is found on these islands in enormous layers of from 35 to 40 feet thick. The upper strata are of a greyish-brown color, which lower down becomes darker. In the lower strata, the color is a rusty red, as if tinged with oxide of iron. The Guano becomes progressively more and more solid from the surface downwards, a circumstance naturally accounted for by the gradual deposite of the strata, and the evaporation of the fluid particles. Guano is found on all the islands, and on most of the uninhabited promontaries of the west coast of South America, especially in those parts within the tropics. I have often been assured that beds of guano, several feet high, covered with earth, are found in land at some distance from the sea; but I never met with any, and I have some doubt of the correctness of the statement. If, however, these inland strata exist, I am inclined to believe that they can only be found on hilly ground: and in that case, they afford strong evidence of a considerable elevation of the coast.

Guano is formed of the excrements of different kinds of marine birds, as mews, divers, shearbeaks, &c.

The immense flocks of these birds, as they fly along the coast, appear like clouds. When their vast numbers, their extraordinary voracity, and the facility with which they procure their food, are considered, one cannot be surprised at the magnitude of the beds of guano, which has resulted from uninterrupted accumulations during thousands of years. I kept for some days a living *Sula variegata*, which I fed abundantly with fish. The average weight of the excrement daily was from three and a half to five ounces. I have no doubt that when the bird is in a state of freedom, the weight must be much greater, for these birds are constantly ploughing into the sea, in order to devour the fishes which they find in extraordinary numbers around all the islands. When an island is inhabited by millions of sea birds, though two-thirds of the guano should be lost while flying, still a very considerable stratum would be accumulated in the course of a year.

The marine birds nestle on the uninhabited islands, or on rocks near the shore; but they never settle on the flat beach, or on any place distant from it inland. On this fact I ground my conjecture that those beds of guano in the interior, which may have been removed from the shore by important elevations of the coast, are to be found only on hills.

During the first year of the deposite, the strata are white, and the guano is then called *Guano Blanco.* In the opinion of the Peruvian cultivators, this is the most efficacious kind. It is found in the *Punta de Hormillos*, or the islands of Islay, Margarita, &c.

As soon as the dealers in guano begin to work one of the beds, the island on which it is formed is abandoned by the birds. It has also been remarked, that since the increase of the trade and navigation, they have withdrawn from the islands in the neighbourhood of the ports.

Much has been recently written on the employment and utility of guano; but the manner in which it is applied as manure in Peru, seems to be but little known. The Peruvians use it chiefly in the cultivation of maize and potatoes. A few weeks after the seeds begin to shoot, a little hollow is dug around each root and is filled up with guano, which is afterwards covered with a layer of earth. After the lapse of twelve or fifteen hours, the whole field is laid under water, and it is left in that state for some hours. Of the *Guano Blanco* a less quantity suffices, and the field must be more speedily and abundantly watered, otherwise, the roots will be destroyed. The effect of this manure is incredibly rapid. In a few days the growth of a plant is doubled. If the manure be repeated a second time, but in smaller quantity, a rich harvest is certain—at least, the produce will be three-fold that which has been obtained from the unmanured soil.

The haciendas of the Valley of Chancay have, during the last fifty years, consumed annually from 33,000 to 36,000 bushels of guano brought from the islands of Chancha and Pisco. The price of the bushel of coloured guano is one dollar and a quarter, and the price of the white from two to three dollars. The price has recently undergone many fluctuations, in consequence of the great exports to Europe.

The employment of this kind of manure is very ancient in Peru; and there is authentic evidence of its having been used in the time of the Incas. The white guano was then chiefly found on the islands opposite to

Chincha: so that for upwards of 600 years the deposite has been progressively removed from those islands without any apparent decrease of the accumulation. The uniformity of climate, on a coast where there is not much rain, would contribute to render the Peruvian guano a more active manure than the African, as fewer of the saline particles of the former being in solution, they are consequently less subject to evaporation.—*American Farmer.*

History of the Cotton Manufacture.

THE importance of the cotton trade to Great Britain, although generally admitted, is but seldom appreciated to the full extent of its value, even by those to whom its progress has supplied abundant labor, or those to whose wealth and affluence it has so materially contributed; I shall, therefore, endeavor to bring this subject before the commercial world as concisely as possible in the subjoined pages, in the hope that in presenting the details, and venturing upon a short outline of its general features, and a brief sketch of its progress in England, I may contribute to the information and pleasure of many in the commercial world.

To trace the manufacture of cotton from its very first stage, is a task which has never yet been fully accomplished, nor is it necessary for the objects sought to be achieved by these papers, to do so; suffice it, therefore, to give a few of the leading facts relative to its progression in other countries, and its introduction into Great Britain.

Most authors agree that cotton goods were successfully made in the East long before the Christian era, but to what extent it advanced amongst Eastern nations at that period, it is now impossible to discover; we learn, however, that the art of manufacture had found its way into Africa and China, a considerable time before mention is made of it in Europe. The earliest records of its introduction into Europe inform us, that it first made its appearance in Spain and Italy; but its progress in those countries was exceedingly limited, and it never appears to have attracted the serious attention of men of genius and perseverance, without whose aid and enterprise it would have failed even in England. As far back as 1298, raw cotton is recorded to have been imported into Great Britain, but it appears to have been exclusively used at that period for candle or lamp wick; and whether it was known as an article suited to the manufacture of clothing, is very uncertain. In the year 1560, there appears to have been a small importation of cotton from the Levant into England, but the quantity was very trifling, and it is not stated to what purpose it was applied; but there can be little doubt that it was spun into yarn, by hand or distaff. It was, however, on a very limited scale; as, in the year 1641, the principal part of the yarn in use here, was itself imported from the Levant, being used as weft only, and manufactured into what would now be called "Unions," the warp being of linen. This description of goods appears to have been made without intermission from that period until the year 1772, when Messrs. Arkwright and Strutts accomplished the art of making goods with a cotton warp.

It will also be seen that little progress was made in the manufacturing of cotton in England, until the year 1782, when the imports for the whole of that year were 33,225 bales; spinning machinery being at this period in its infancy. When we contemplate the present extent of the manufacture of cotton, the rapid stride it has made seems almost incredible. Not more than seventy years have elapsed since England's first profitable acquaintance with the cotton manufacture. In the year 1781, the quantity of cotton wool imported, was only 14,603 bales; but in 1845, it amounted to the enormous number of 1,855,660 bales, being 127 times as much as in the former year. In fact, our weekly consumption in 1846, was more than double the whole import of the year 1781. How deeply must the importance and magnitude of British enterprise and industry, and the power of man over the means of production, be impressed upon our minds, when we consider, that although so many centuries have passed since cotton was known in the East, and that within so short a period, (less than 100 years,) we were indebted to that distant country for both our goods and yarn. Yet have the exports in yarn and calicoes to India alone, during the last year, amounted to the enormous quantities of 20,500,000 lbs. of yarn, and to upwards of 196,000,000 yards of calicoes, and that it has been reserved to these times, to send out persons of firstrate ability, and at considerable expense, to induce the natives, (or, as may be said, the parents of the trade,) to increase and improve their cultivation; in order to aid in supplying that want of raw material, which the more modern gigantic efforts, and almost incredible progress of the United States of North America, do not satisfy.

It is an undeniable fact, that the cotton trade is much larger in amount than all the other descriptions of clothing. Notwithstanding its enormous extent, however, it has been, and will continue to be, more materially and suddenly affected by current

fluctuations than any other of our domestic fabrics. Some idea of the vast importance of this portion of British Commerce, may be formed from the following statement:

The value of the whole export of British and Irish produce and manufactures, for the last three years, has been as follows:

1844.	1845.	1846.
£50,648,306.	£53,298,026.	£51,279,735.

Of which cotton manufacture and cotton yarn formed—

1844.	1845.	1846.
£25,805,338.	£26,119,331.	£25,600,693.

So that one-half of the value of all our exports consists of cotton manufactures, and not more than one-third or one-fourth of this large amount arises from the cost of the raw material, which England pays to foreigners; so that the remainder is annually enriching the country, through the skill and labor of her manufacturers and factory operatives.

In reference to the embellishment of cotton goods, the principal features are printing and dyeing, the art of which had also been long known in the East, previous to its introduction into England, in 1675. In the year 1690, it was commenced on the banks of the Thames, near London, but the goods there printed were confined to muslins and calicoes imported from India. In 1700, an act was passed, (as an encouragement to the trade of Great Britain,) forbidding the sale or use of foreign printed goods, and this branch of her trade has also been further protected by several subsequent acts, as in 1782, prohibiting the exportation of any materials used in printing, &c.; and in 1783, giving bounties on the export of British printed goods; and several other acts were enacted on the same principle, until 1787, when an excise duty of 3½d. per square yard was imposed upon all printed cottons, but the same was allowed as a drawback when exported; this act was wholly repealed in the year 1831. Export of printed goods bear a very disproportionate amount to that of plain calicoes, as in 1846, the amount of the former was only 267,000,000 yards, while that of the latter was 619,000,000 yards.—*Hunt's Magazine.*

Mint of the United States.

ANNUAL REPORT FOR 1847

Of the Directors of the Mint at Philadelphia, showing the operation of the Mint and Branch Mints for the year 1847.

The letter of the Director of the Mint shows that during the past year the coinage was:

At Philadelphia—In Gold		$13,269,080
	In Silver	990,450
	In Copper	61,837
		$14,348,367
The number of pieces coined, 11,545,278.		
The deposits amounted to,		
	In Gold	$13,670,896
	In Silver	962,781
		$14,633,677
At New Orleans—In Gold		$6,085,000
	In Silver	1,384,000
		$7,469,000
The number of pieces coined, 3,659,500.		
The deposits amounted to,		
	In Gold	$6,252,228
	In Silver	1,487,278
		$7,739,506
At Charlotte, N. C. it amounted to		$473,820
No. pieces—In ½ eagles, 84,151		
In ¼ eagles, 23,266		
The deposits (in gold) amounted to		$344,054
At Dahlonega, Geo. it amounted to		361,485
No. pieces—In ½ eagles, 64,405		
In ¼ eagles, 15,784		
The deposits (in gold) amounted to		$352,366
At the several Mints—In Gold		20,221,305
	In Silver	2,374,450
	In Copper	61,827
		$22,657,662
The deposits amounted to,		
	In Gold	20,619,544
	In Silver	2,450,059
		$23,069,603

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, FOURTH MONTH, 1848.

THE Editor of the Farmer's Cabinet will relinquish its publication at the close of the current volume in the seventh month next. He will dispose of the concern upon terms that may be advantageous to any one who may incline to continue it.

THE New York State Agricultural Society, will hold its Exhibition in the coming autumn at Buffalo. The amount of the premium list is upwards of $6 000. Extensive preparations will be made by the citizens of Buffalo, to accommodate the vast crowds which attend these annual Exhibitions.

Fruit and other Trees.

The subscribers offer for sale at their Nurseries, Westchester, an extensive assortment of Fruit, Ornamental and Evergreen Trees of fine size, and which are warranted true to their name. Their list of Apple trees comprises about 130 select kinds of thrifty growth, and have been entirely free from the attacks of the borer, which have been so fatal in some sections Trees packed so as to carry any distance, and delivered in Philadelphia if desired. Orders may be left with Josiah Tatum, from whom catalogues can be obtained. Orders by mail will receive prompt attention.

MORRIS & STOKES,
Westchester, Chester Co., Pa.

Third mo. 15, 1848.—2t.

COAL.

The subscriber has made an arrangement for a constant supply of superior Lehigh and Schuylkill Coal—carefully prepared for family use, which he will furnish *at the usual cash prices*, on application at the office of the Farmers' Cabinet, where samples of the different kinds and sizes may be seen.

JOSIAH TATUM.

Philadelphia, Fourth month 15th, 1848.

COATES' SEED STORE,

No. 49 Market Street,

FRESH TIMOTHY SEED,

Of various qualities, from good common seed to the purest and finest that can be produced,

TOGETHER WITH A COMPLETE ASSORTMENT OF

GRASS & GARDEN SEEDS,

Of the finest Quality and best Varieties,—Bird Seeds, &c.

JOS. P. H. COATES,
Successor to George M. Coates.

May 15th, 1847.

SEED STORE,

No. 23 Market Street, Philadelphia.

The subscriber keeps constantly a supply of White and Red Clover, and other grass seeds; fresh Perennial Rye-grass, and Lucerne seed. Field seeds, consisting of choice Spring Wheat, Barley, Potatoe Oats, Northern and other seed-corn. Also, in season, Fruit and Shade Trees. Garden and Bird seeds generally. Guano in parcels to suit purchasers.

M. S. POWELL.

Philad., Feb., 1847. tf.

Agency for the Purchase & Sale of

IMPROVED BREEDS OF CATTLE & SHEEP.

The subscriber takes this method of informing his friends and the public, that he will attend to the purchase and sale of the improved breeds of cattle, sheep, swine, poultry, &c., for a reasonable commission. All letters post paid, addressed to him at Philadelphia, will be attended to without delay.

AARON CLEMENT.

April 15*th*, 1847.

NEW

Horticultural and Agricultural Ware-house,

84 Chesnut Street below Third, South side.

The subscriber has for the better accommodation of his customers, opened the above ware-house, with a large stock of Garden and Field Seeds, crop of 1846. Implements and Books on Gardening and Farming; he calls the particular attention of farmers to his pure stock of Sweede Turnips, Field Carrots, Beets and Parsnips, Pruning Shears, Saws and Knives.

March 14th, 1847.—1y. R. BUIST.

GUANO.

Peruvian & African Guano, in bags & bbls.

ALSO, PREPARED GUANO.

This article has been in use during the last year, and from the effect that it has produced, can be safely recommended to farmers as a cheap and valuable fertilizer; the object in preparing this article is to give the farmer a manure at a very low price, that will enable all to use it. It is prepared upon strictly scientific principles, and is recommended to general use by the *Farmers' Club, and the New York State Agricultural Society.*

For Sale by ALLEN & NEEDLES,
23 South Wharves, near Chesnut Street, Phila.

Feb. 15*th*, 1848.—6m.

PREMIUM IMPLEMENTS.

PROUTY'S Improved Machine for Shelling and Screening Corn, and Separating it from the Cob.

For this Machine the Philad'a Agricultural Society awarded their first Premium for Corn Sheller, 1847.

Grant's Patent Premium Fan Mill,

For Chaffing and Screening Wheat, at one operation. Three Silver Medals, and nine First Premiums, have been awarded for the above Mill.

Prouty and Mears' Patent Centre-Draught, Self-Sharpening Ploughs. First Premium awarded for these Ploughs, by the Philadelphia Agricultural Society, 1844, 1845, 1846 and 1847.

Corn and Cob Breakers and Grinders,

Corn Stalk Cutters & Grinders—Sugar Mills—Spain's Improved Barrel Churn, the dashers of which may be taken out to clean. Also, a full assortment of Agricultural Impliments, Manufactured and for Sale by

D. O. PROUTY,

No. 194½ Market Street, below Sixth, Phildelphia.

Nov. 15, 1847.—tf.

☞ SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line. Payment in advance.

The quantity of rain which fell in the 3rd month 1848, was ..... 2,75 in.

Penn. Hospital, 4*th mo.* 1*st.*

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$3 50
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	50
Complete sets of the FARMERS' CABINET, half-bound, 11 vols.	9 50
DOWNING'S Landscape Gardening,	3 50
Downing's Fruits and Fruit Trees of America,	1 50
SKINNER'S Every Man his own Farrier,	50
AMERICAN Poulterer's Companion,	1 25
BOUSSINGAULT'S RURAL ECONOMY,	1 50
FARMERS' & EMIGRANTS' HAND-BOOK,	1 00
MORRELL'S AMERICAN SHEPHERD,	1 00
STABLE ECONOMY,	1 00
BEVAN on the HONEY BEE,	31½
BUISTS' ROSE MANUAL,	75
THOMAS' FRUIT CULTURIST,	50
SKINNER'S CATTLE & SHEEP DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
HOARE ON THE VINE,	62½
HANNAM'S Economy of Waste Manures,	25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
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Subscriptions received for Colman's Agricultural Tour—or single numbers sold.

☞ We are prepared to bind books to order.

AFRICAN GUANO.

First quality African Guano, from the island of Ichaboe, warranted genuine. Also a few tons Peruvian

For sale by J. B. A. & S. ALLEN,
No. 7 South Wharves, 2nd Oil Store below Market street.

Philadelphia, March 17th, 1847.

Poudrette.

A valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, North Fourth Street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels each, or 35 cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. The results on corn and wheat last year have been generally very satisfactory. Farmers to the south and in the interior, both of this State and of New Jersey, are invited to try it. We are now ready to supply any demand for corn, or as a top dressing for wheat.

JOSIAH TATUM

Philada. 4th mo. 15th, 1848.

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Joseph Rakestraw, Printer.